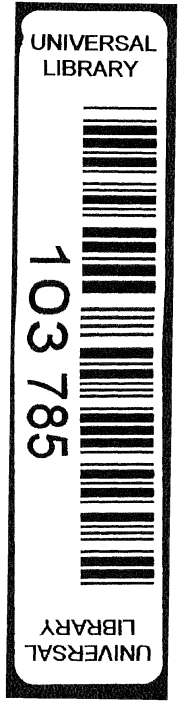
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CHARACTERISTIC DIFFERENCES IN THE TEACHING PERFORMANCE OF GOOD AND POOR TEACHERS OF THE SOCIAL STUDIES

BY

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A. S. Barr.

Madison, Wisconsin.

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* Tables XXXVI to XL are omitted in this report. They are, however, reproduced in the original manuscript on file in the University of Wisconsin Library.

CHAPTER I

INTRODUCTION

Some six or eight years ago, while the writer was doing supervisory work in the Detroit Public Schools, he became interested in the subjective character of current supervisory procedures. This interest led to the development of the Detroit standard items to observe for the improvement of teaching.[1] In these items to observe, an attempt was made to analyze teaching somewhat more systematically than is ordinarily done, and to state the items to observe in objective terms. The aim of this work was to substitute, as far as it was possible to do so, an objective terminology for the subjective phraseology ordinarily used in supervision.

In attempting to arrive at an explanation of the subjective character of current supervision, it seemed that the expressions ordinarily used by supervisors were inferential in character. Expressions such as "the room is comfortable," "the atmosphere is good," "the class was responsive," are conclusions or inferences drawn by supervisors from the specific, observable facts of teaching. One does not observe directly that the atmosphere of the classroom is good, but observes certain specific teacher and pupil activities from which he concludes that the atmosphere of the classroom is good. This point can be illustrated by an intangible expression such as "move of the recitation." A supervisor of my acquaintance was recently very much impressed by the "move" of a particular recitation. Now I do not know what "the move

[1] Barr, A. S., and Others. *Elementary School Standards for the Improvement of Teaching.* Ann Arbor, Michigan: Edwards Bros., 1924.

of the recitation'' meant to her, but to me it meant the rate at which the teacher talked plus the interval elapsing between the teacher's question and the pupil's response, plus the rate at which the pupil talked, plus the interval elapsing between the pupil's response and the teacher's comment, measured against her notion of what constitutes a satisfactory standard of ''move.'' If one cares to analyze such expressions as these, they can be reduced to lower terms which are more objective. The point may be further illustrated by the word ''sportsmanship.'' Now sportsmanship is an inference based upon observable facts. What the observer really does observe is the exchange of greetings between opposing captains, the slugging of one player by another, the assisting of an injured opponent to his feet, etc., from which he concludes that one group of players is more sportsmanlike than another. Most supervisors are wholly unaware of this more detailed aspect of supervision.

Supervision such as that described above is also frequently described as impressionistic. While data are used in drawing conclusions, as pointed out above, these conclusions are usually based upon partial observations of the facts and upon estimates of the amount of each item present. The conventional supervisor arrives at the conclusion that ''the attention is good'' from the estimate of the amount of attention, never through an exact recording of the percentage of attention. The conventional supervisor never counts, records time, or attempts to get specific information; he merely guesses at the facts. Thus his supervision is impressionistic. The Detroit study aimed to attack directly the vague, subjective, impressionistic practices of the conventional supervisor.

The present situation in supervision can probably be made more concrete by studying what supervisors actually look for in classroom supervision. One hundred and six superintendents, supervisors, and principals, at a recent meeting of schoolmen assembled to discuss problems of classroom supervision, made, at the writer's request, a list of the specific items of teaching usually observed by them in classroom supervision. These lists were made upon the spur of the moment and are probably not as complete or as carefully stated as they might have been under more favorable conditions, but they represent, nevertheless, certain more or less interesting facts about the present status of classroom supervision. The twenty items most frequently listed by these supervisors are presented in Table I.

TABLE I

WHAT SUPERVISORS LOOKED FOR IN CLASSROOM SUPERVISION

		FREQUENCY
1.	Pupils' interest in subject	30
2.	Physical conditions in room	24
3.	Attitude of pupils	18
4.	Pupil activity	17
5.	Definite teacher aim	15
6.	Responsiveness of pupils	15
7.	Attitude of teacher	14
8.	General attitude of teacher and pupils	13
9.	Atmosphere of classroom	12
10.	Skill in teaching technique	12
11.	Evidence of teacher preparation	10
12.	Method of instruction	9
13.	Assignment	8
14.	General appearance of room	8
15.	Evidence of pupil preparation	7
16.	Ability of teacher to "put across"	7
17.	Teacher and pupil coöperation	7
18.	Work going on	7
19.	Types of questions asked by teacher	6
20.	Discipline	6

In the first place, one is impressed by the subjective character of the data listed by these supervisors. Items such as "attitude of pupils," "responsiveness of pupils," "attitude of teacher," and "atmosphere of classroom" appear with high frequency. The fact that such items are subjective has, however, already been remarked upon and need not be discussed further at this point. The most interesting new fact brought out by the data is the lack of agreement among supervisors as to what constitutes the important characteristics of good teaching. These 106 supervisors listed 131 different items to observe, seventy-two of which were mentioned only once. It seems, somewhat, as if each supervisor employed his own system of supervision. This matter is one of some importance since supervisors occupy positions of authority, hiring, dismissing, and variously advising teachers according to their private systems of supervision. Are these various items important characteristics of good teaching? They seem to be just so many unvalidated test items, based upon the personal selections of the supervisors using them. One needs to know whether these items are valid, and, if valid, whether they are important. Little attention seems to have been given to this point.

The seriousness of the present situation in classroom supervision can be more fully realized from a study of the reliability of supervisory observations. The writer recently secured the assistance of some sixty supervisors in the analysis of two thirty-minute recitations in arithmetic, one in addition, and one in multiplication. The pupils were eight, nine, and ten years of age and represented a typically heterogeneous group. The teacher

was a graduate student in the university with two years of teaching experience. Both teacher and pupils were relatively unknown to members of the supervisory groups.

The problem presented to this group of supervisors was one of correctly analyzing a teaching situation about which they had no advance information. Each supervisor was supplied with a form (Form PQ) containing twelve items more or less typical of those used in conventional classroom supervision. These supervisors were directed to study the teacher's work and evaluate her performance for each of the twelve items. The directions to supervisors were as follows:

"Observe the work throughout the entire recitation

TABLE IA

ITEMS TO OBSERVE

ITEM	FORM PQ RATING									
	1	2	3	4	5	6	7	8	9	10
1. Attitude of the pupils										
2. The teacher's aim or objective										
3. Teacher's skill in asking questions										
4. Evidence of teacher preparation										
5. Responsiveness of pupils										
6. Selection and organization of subject matter										
7. Provision for individual differences										
8. Motivation										
9. General appearance of the room										
10. Quality of work done										
11. Move of the recitation										
12. Discipline										

General Merit Rating

(Draw a circle around one of the following numbers)

1 2 3 4 5 6 7 8 9 10

period. Take such notes as you need to take. Fill in the rating scale at the end of the recitation period. In filling in the ratings remember that teacher's performance may be excellent in one respect and poor in another. She may be skillful in asking questions, for example, but poor in discipline or vice versa. Remember to use the entire range of the rating scale if necessary. We shall attempt to demonstrate all levels of merit. Fill in the general merit rating at the bottom of the page (sheet)."

The important fact to note is that we have here in this experiment sixty supervisors, all observing the same teacher teach at the same time under the same conditions. If supervisors can agree in their analyses of teaching, they should more nearly do so under carefully controlled conditions such as these, where they may observe the same teacher teach the same subject and the same pupils under the same conditions. The results are presented in Table II.

The outstanding fact brought out by these data is that supervisors cannot agree when they are asked to analyze a teaching situation, about which they have no advance information, and when they use twelve items more or less typical of those used in conventional classroom supervision. While the writer expected that they would not agree, he did not expect such marked disagreement. In fourteen of the twenty-six ratings these supervisors spread their ratings over the entire ten-point scale; in eleven instances their ratings covered nine points, and in only one instance did they show any agreement whatsoever. In rating motivation, for example, twenty supervisors (second observations) said that the motivation was superior, and twenty-one supervisors said that it was very poor. In general merit thirteen of these

TABLE II

Summary of the Ratings of Some Sixty Supervisors of Two Thirty-minute Recitations in Arithmetic for Twelve Items More or Less Typical of Those Used in Conventional Classroom Supervision

Scale upon which each item was ranked*	Attitude of pupils		Teacher's aim or objective		Teacher's skill in asking questions		Evidence of teacher preparation		Responsiveness of pupils		Selection and organization of subject matter		Provision for individual differences		Motivation		General appearance of the room		Quality of the work done (pupil)		Move of the recitation		Discipline		General merit	
	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation	First recitation	Second recitation
1	38	8	14	10	0	0	8	11	19	8	14	14	19	15	5	3	7	6	2	2	3	0	35	18	3	0
2	19	21	15	13	5	7	8	14	18	11	15	10	21	14	6	8	9	7	7	8	13	8	17	13	9	4
3	8	8	5	11	9	8	8	10	13	7	11	9	6	6	13	9	9	7	19	8	12	6	4	15	16	9
4	0	5	6	7	10	10	10	11	3	15	3	7	4	6	13	7	3	3	13	7	7	7	1	7	16	12
5	0	8	4	5	3	3	9	4	1	6	6	3	4	2	8	6	9	10	5	6	4	5	1	2	7	12
6	0	4	4	0	2	5	2	3	1	3	3	0	2	4	3	1	4	5	1	1	4	2	0	0	5	5
7	0	4	2	2	4	8	5	1	0	2	1	4	0	3	5	6	2	0	3	11	8	11	0	1	1	5
8	0	4	5	3	4	1	4	2	1	6	1	3	1	3	1	4	9	10	5	3	4	6	0	0	5	7
9	0	1	2	3	4	3	3	2	0	0	4	2	1	0	6	10	2	3	1	5	0	7	0	2	2	4
10*	0	0	0	0	7	10	0	1	2	0	0	6	1	6	4	7	5	7	1	3	4	4	1	1	0	2
A**	1.5	3.9	3.7	3.4	5.6	5.7	4.2	3.4	2.5	3.8	3.2	4.0	2.6	3.8	4.8	5.6	4.9	5.3	4.1	5.3	4.5	5.8	1.7	2.7	4.1	5.3

* A score of one is excellent and a score of ten is poor. The numbers at the right indicate the frequency with which each item was assigned to each rank.

** Average rating assigned to each item.

supervisors rated this teacher as superior (second observation), but thirteen other supervisors rated this same teacher as very poor. These last named supervisors would doubtless have discharged this teacher at the end of the year if she were employed under their direction; the first thirteen supervisors would doubtless have reemployed the teacher with a promotion and increase in salary. After the demonstration was over, one group of supervisors commented upon the very poor quality of

TABLE IIA

COEFFICIENTS OF CORRELATION FOR PAIRED OBSERVATIONS UPON TWELVE ITEMS TYPICAL OF THOSE USED IN CONVENTIONAL CLASSROOM SUPERVISION

ITEMS	R	P E
1. Attitude of the pupils	+.311	.082
2. The teacher's aim or objective	+.342	.078
3. Teacher's skill in asking questions	—.156	.085
4. Evidence of teacher preparation	+.347	.077
5. Responsiveness of pupils	+.296	.079
6. Selection and organization of subject matter	+.319	.082
7. Provision for individual differences	+.426	.069
8. Motivation	+.443	.074
9. General appearance of the room	+.260	.080
10. Quality of work done	+.234	.081
11. Move of the recitation	+.768	.036
12. Discipline	+.256	.08
13. General merit rating	+.178	.084

teaching exhibited; in another group a superintendent of schools made the remark that he wished he might employ this teacher for the coming school year. The point is that conventional supervision is highly subjective.

A further study of the reliability of supervisory observations was made by correlation methods. It will be recalled that these sixty supervisors observed the teacher teach two recitations. Taking the ratings for the two ob-

servations as pairs of scores, the coefficients of correlation were calculated for each of the twelve items which composed the recitation score card used in this demonstration.[2] These data are presented in Table IIA.

The meaning of these data may be explained as follows. Let us suppose that a supervisor has time to visit a teacher for thirty minutes. How reliable a measure of the ability of this teacher can the supervisor secure from a thirty-minute observation? The answer to this question is given in the coefficient of correlation reproduced in Table IIA. With the exception of item No. 11,[3] the coefficients are uniformly low, thus attesting to the low reliability of supervisory observations.

The significance of these data may be more fully understood when the coefficients of correlation are translated into percentages of forecasting efficiency (Table IIB).

TABLE IIB

RELATION OF COEFFICIENT OF CORRELATION TO THE PERCENT OF FORECASTING EFFICIENCY*

r	E (percent)	r	E (percent)
.10	.5	.70	29
.20	2	.80	40
.30	5	.90	56
.40	8	.95	69
.50	13	.98	80
.60	20	1.00	100

* Hull, Clark L. "The Correlation Coefficient and Its Prognostic Significance," *Journal of Educational Research*, XV, (May, 1927), 327-338.

The average coefficient of correlation is approximately .30. A coefficient of correlation of .30 has a forecasting efficiency of five percent, which means that if

[2] Thirteen including the general merit ratings.

[3] This is doubtless a chance correlation.

these supervisors had closed their eyes, stopped up their ears, and then had rated these recitations at random upon the twelve items which composed the recitation score card used in this demonstration, their ratings would have been only five percent poorer than they were when rated according to conventional standards of classroom supervision. These facts have been particularly important in setting forth the problem for this investigation.

CHAPTER II

THE PROBLEM AND PROCEDURE OF THIS INVESTIGATION

The problem of this investigation is really threefold. In the first place, it has been pointed out in some detail that present methods of classroom supervision are of doubtful validity, reliability, and objectivity. It has been suggested that supervisors be trained to observe, analyze, and describe teaching in terms of specific teacher and pupil activities. It has been proposed that this method of supervision be substituted for the method now generally used. In doing so, an assumption has been made concerning teaching, namely that there exist in the classroom observable activities and conditions in terms of which teaching performance may be objectively described. This contention has already been set forth in earlier statements upon the nature of supervision made in the Detroit Study. In the present investigation a detailed study of the teaching performance of good and poor teachers of the social studies has been undertaken to test this assumption. If the assumption is well founded, observable differences should appear in the activities of the best and the poorest of the teaching profession. Secondly, the study is an inquiry into the characteristic differences in the teaching performance of good and poor teachers of the social studies in the junior and senior high school. In so far as the investigation is a study of the differences which characterize the teaching performance of good and poor teachers of the social studies, it is an investigation purely of the comparative

status-study type. The problem is one of describing likenesses and differences in the teaching performance of good and poor teachers. As an investigation of the teaching of the social studies, the study presents a considerable amount of new and interesting material concerning the manner in which these subjects are taught. Finally, the study, in its more general aspects, is an inquiry into the causes of success and failure in teaching. A question which is frequently raised in supervision is: "Why is it that some teachers succeed and other teachers fail?" The outcome of this part of the investigation will probably be some general statement of the qualities essential to success in teaching. The first problem of this investigation is thus primarily in the field of supervision; the second in the field of method; and the third in the more general field of school practice.

I. HOW THE PROBLEM WAS STUDIED

The procedure pursued in this investigation is that commonly known in scientific methodology as the *method of double agreement.*[1] Forty-seven teachers of history, civics, and geography in the junior and senior high school, (grades seven to twelve), whose superior ability as teachers had been recognized and an equal number

[1] Also called the "Joint Method of Difference and Agreement." Mill sets forth this method in his third canon as follows: "If two or more instances in which the phenomenon occurs have only one circumstance in common, while two or more instances (in the same department of investigation), in which it does not occur, have nothing in common save the absence of that circumstance, the circumstance in which alone the two sets of instances differ is the effect, or the cause or an indispensable part of the cause of the phenomenon." Westaway, F. W. *Scientific Method, Its Philosophy and Its Practice.* London: Blackie and Son, 1919, p. 207.

of teachers with less than average teaching ability were selected for special study and analysis. (A discussion of the method of selecting these teachers is given at a latter point in this dissertation.)

Each teacher was visited and her work subjected to a thoroughgoing analysis by the case-study method. The data collected were meant to be reasonably complete. After a considerable amount of information concerning each teacher had been assembled in this way, the remainder of the study consisted of (1) a comparison of the various instances of good teaching with each other in order to discover circumstances common to good teaching; (2) a comparison of the various instances of poor teaching with each other to discover circumstances common to poor teaching; (3) a comparison of instances of good teaching with instances of poor teaching to discover ways in which they differ. These data were studied with the three major problems of the investigation in mind.

The list of things studied include the following: teaching posture, characteristic actions of the teacher, characteristic expressions of the teacher, the teacher's vocabulary, the assignment, the teacher's questions, the teacher's comments upon the pupil's response, the teacher's attention to the pupil's recitation, use of illustrative materials, economy of time, attention to physical conditions, methods of handling materials, discipline, provision for individual differences, motivation, knowledge of the learning process, supervised study, the selection and organization of subject matter, measurement of results, characteristic pupil activities, and such quantitative facts as the average length of the teacher's ques-

tion, the average length of the pupil's response, the amount of time consumed by each individual pupil during the recitation period, the average number of hands raised per question, the number of questions asked by members of the class, time spent with various illustrative devices, time lost in wait and delay and the amount of time given to the assignment, review, tests and quizzes, special reports by pupils, supervised study, roll call, announcements, the distribution and collection of materials, discussion by the teacher, book reports, debates, notebook work, map work, and the checking of work by the teacher.

Both the qualitative and the quantitative aspects of teaching were studied. As a qualitative study, the investigation attempts to set forth the constituents of good and poor teaching. It aims to discover those elements common to the teaching of good teachers (if there are such) not characteristic of the teaching of poor teachers, and, vice versa, those elements common to the teaching of poor teachers not characteristic of the teaching of good teachers. The first problem of this study is thus one of determining the presence and absence of certain definite constituents of teaching. As a quantitative study the investigation is concerned with those time and frequency differences typical of the teaching of good and poor teachers. To say, for example, that a teacher makes an assignment does not mean much because all teachers, good and poor alike, make assignments, i.e., this quality seems to be present in the teaching performance of all teachers. The analysis of the assignment must, therefore, either be carried into such detail that qualitative differences do appear, or a method of quantitative analysis must be applied. In the case of the assignment,

as will be seen later, both procedures were followed. Qualitatively, in making assignments, good teachers were found to do certain things that poor teachers almost never did. Quantitatively, good teachers were found to spend a slightly greater amount of time in making the assignment than poor teachers.

The quantitative measures employed in this investigation are of two sorts, namely, measures of the time consumed in various activities, and measures of the frequency with which activities were performed. For certain activities it seemed most important to know the amount of time consumed and for others the frequency with which they were performed. The assignment, for example, lends itself nicely to studies of time consumed. A count, however, of the number of fact and judgment questions asked by the teachers seemed most reasonable for this aspect of teaching. The character of the specific activity determined in each case which was to be used.

II. How the Teachers Were Selected for this Investigation

The teachers studied in this investigation were selected as follows: (1) A letter was addressed to a number of city and county superintendents of schools[2] in the state of Wisconsin, asking them to name, if they had any such, outstandingly good or outstandingly poor teachers of history, civics, and geography. (Forms *P and Q, Appendix.*) The letter requesting the names of good teachers went to cities with a population of 4,000 in-

[2] Some of the schools visited were so small that there was no city superintendent of schools.

habitants and over, and the requests for names of poor teachers to superintendents of schools in cities of less than 4,000 inhabitants, to village schools, and to county superintendents with state graded schools under their direction. Teachers in one and two room rural schools were excluded from the study. (2) The list of teachers received was then checked against the ratings of the state inspectors. Those who did not have a rating of *B* plus or better were excluded from the superior group, and those who did not have an average rating of *C* minus or less were excluded from the poorer group. (3) The teachers who remained on the list were then visited. The writer then made additional eliminations by dropping from the list all of those teachers who seemed to be neither strikingly successful nor strikingly poor. There thus remained, through a process of elimination, two lists of teachers: one of good teachers and one of poor teachers, each list representing the composite judgment of three individuals[3] who varied widely in training, experience, and ideals of teaching, and who had seen each teacher at different times, with different classes, under wholly different circumstances, but who agreed in assigning these teachers to their categories good or poor. With these precautions it is reasonably certain, at least according to current standards of teaching, that each teacher was about of the quality assigned to her by the judges.

Certain other facts were, however, taken into consideration in the selection of these teachers: (1) The

[3] In many cases these judgments were supplemented by that of the principal and on several instances by other state and university inspectors.

good teachers were selected from "promoted" teachers working in larger school systems: (Table III) namely, in cities with a population of four thousand inhabitants and over. The median size of the city in which this group of teachers was employed was 22,500. The poor teachers were selected from smaller cities, villages, and state graded schools. The median sized city for this group was 1750. Of course, the factor of promotion and the size of city employing a teacher are by no means an infallible index of teaching success, but they indicate that a certain stamp of approval has been placed upon the teacher's work. (2) Teachers in the first group were those of superior training (Table IIIA). The median amount of training for good teachers was four years; the median amount of training for the poor teachers was two years. (3) Teachers of the highest group were those of superior experience (Table IIIB). The median amount of experience for good teachers was 12.3 years. The median amount of training for poor teachers was 3.7 years. (4) Teachers of the superior group were reemployed. All teachers of the superior group were reemployed for the succeeding year; approximately fifty percent of the poor teachers were not returned to their former positions for the following year.

The writer had access to, but did not use another means of selecting teachers,[4] namely, selection based upon the measurement of the results of teaching. Educational tests might have been given, for example, at the beginning and end of each of several successive semesters of work in order to determine the efficiency of each teacher. With the teachers thus selected, the study might have

[4] This method might very well be used in a subsequent study.

proceeded much as outlined above. This, however, was not done because: (1) Tests do not measure teaching success, except when applied under carefully controlled conditions. Tests measure changes in pupils, including those resulting from native capacity, from maturity, from home environment, from increased or decreased effort, from health, from outside assistance, etc. The teacher's teaching, however important it may be, is only one factor among many. (2) The application of tests necessitated certain assumptions relative to the outcomes of teaching which the investigator was not prepared to make,— (a) that all of the results of teaching could be measured, (b) that the objectives assumed by the makers of tests constitute the proper goals of teaching, (c) that the tests selected for use measure fully what they pur-

TABLE III

THE SIZE OF CITY IN WHICH TEACHERS WERE TEACHING

SIZE OF CITY	NUMBER OF TEACHERS IN EACH GROUP			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
24,000 and over	2	22	0	13
22,000 – 23,999	0	2	0	1
20,000 – 21,999	0	0	0	0
18,000 – 19,999	0	7	0	4
16,000 – 17,999	0	0	0	0
14,000 – 15,999				
12,000 – 13,999	0	2	0	1
10,000 – 11,999	0	0	0	0
8,000 – 9,999	5	4	1	1
6,000 – 7,999	0	5	0	3
4,000 – 5,999	2	5	0	3
2,000 – 2,999	13	0	5	0
0 – 1,999	25	0	20	0
Median*	1,750	22,500	1,667	24,000

* Calculated from ungrouped data.

ported to measure, and (d) that the tests measure reliably what they purported to measure. (3) This investigation, on account of its explanatory nature, did not warrant a more accurate technique of determining teaching success.

TABLE IIIA

THE TRAINING OF THE TEACHERS USED IN THIS STUDY*

QUALIFICATIONS	NUMBER OF TEACHERS IN EACH GROUP			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
M.A., University (or its equivalent	3	5	1	5
Graduates of universities or colleges	17	26	8	13
Graduates of state normal schools	23	15	16	7
Graduates of county normal schools	1	0	1	
Graduates of high schools	2	0		
	46	46	26	25

* A group of twenty-six of the very poorest and a like number of the very best teachers, for whom the records were most complete, was chosen for retabulation as a check upon the consistency of the findings. This procedure was followed throughout the entire investigation. These groups will be known in the tables and discussions as the total group and the selected group.

This statement should not be construed to mean that the writer is opposed to measurement or that he is of the opinion that measurement might not be profitably applied to the selection of good and poor teachers. Such a study might be initiated by applying, under carefully controlled conditions, selected tests to simple processes such as those of addition in arithmetic, of spelling, or of writing. After this was done, the work of each teacher might then be studied much as has been done in this in-

TABLE IIIB

TEACHING EXPERIENCE OF THE TEACHERS USED IN THIS INVESTIGATION

YEARS OF SERVICE	NUMBER OF TEACHERS IN EACH GROUP			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
21 years and over	2	5	0	2
18 – 20.9	0	4	0	3
15 – 17.9	1	5	1	3
12 – 14.9	0	9	0	5
9 – 11.9	1	10	1	6
6 – 8.9	6	4	2	1
3 – 5.9	15	4	12	1
0 – 2.9	18	3	7	2
Median	3.7	12.3	4.1	12.9

vestigation, and the results compared with the amount of change produced in pupils as measured by tests. Such a study should produce objective data upon differences in the ability of teachers to teach addition, spelling, or handwriting. A teacher may, of course, be quite effective in teaching pupils to add, subtract, multiply, and divide, and yet be quite ineffective in other respects; that is, the ultimate conclusions must be limited to whatever the tests measure. Such studies might be made, however, as a supplement to studies of the type herein reported.

III. THE KINDS OF FACTS COLLECTED

As has already been stated, the data collected concerning the work of each teacher were meant to be as complete as possible. They were the following: (1) A stenographic report of one or more recitations under each teacher. (This stenographic report was of the traditional type, except for the fact that it was annotated.) (2) A time-chart record of one or more recitations taught

by each teacher. (Form X, Time Chart, *Appendix*) (3) An attention chart for one or more recitations taught by each teacher; the Morrison[5] procedure was followed. (4) A time-distribution study of the major activities of the recitation for a period of one week (Form N, *Appendix*). (5) A check-list record of one recitation for each teacher (Form Z, *Appendix*). (6) A comprehensive questionnaire upon the various practices of each teacher in her teaching (Form A, *Appendix*). (7) A letter from the superintendent setting forth the teacher's chief elements of strength and weakness (Form O, *Appendix*). (8) A letter from the teacher giving a self-analysis of her own teaching, indicating elements of strength and weakness (Form R, *Appendix*). (9) Miscellaneous notes upon various activities observed in the classroom (Form Y, *Appendix*). In general, only objective evidence was collected, but when such evidence was not immediately available, subjective impressions were recorded. The purpose throughout was to ascertain, as completely as possible, the reason for the success or failure of each teacher.

IV. How the Facts Were Collected

In general, the method used in the collecting of data was that of classroom visitation and conference. Each teacher was told by the superintendent of schools that she was to be visited at some time in the near future, that the visit was part of a study of teaching, and that the visitors were not inspectors. The exact time of the visit was not stated. Unannounced visits followed at a later date.

[5] Morrison, Henry C. *The Practice of Teaching in the Secondary School.* University of Chicago Press, 1926, pp. 115-143.

The observer reported his arrival at the school to the superintendent who then introduced him to the teacher. Since such visits increase the difficulty of a teacher's work, great pains were taken to make her feel at ease. The statement made to each of the good teachers usually included some reference to the fact that she had been selected for visitation because of her outstanding teaching ability, that our problem was to discover how teachers actually taught, that many other teachers had been visited or were about to be visited, and that the observer fully appreciated the difficulty of teaching for visitors. This last statement was usually supplemented by a statement or story concerning the observer's own embarrassment as a student-teacher. The teacher was told that we would, of course, take some notes, but that she should not let this confuse her. She was not told, however, that these notes were to be time and stenographic records. She was also told that she might see any and all of the data obtained if she cared to see them. Poor teachers were treated the same way except, of course, that no statement was made to the effect that they had been selected because of their outstanding merit. It was usually stated that the observer was in charge of "technique" courses at the University, that he had found the discussions quite "academic" (which was certainly true enough), and that he was anxious to observe actual teaching and to discover for himself the real problems of teaching. It was also stated that the observer preferred not to see model teaching but wished to see just the regular daily class work. The teacher was told that we were not at all concerned with how well or how poorly she did her work, but merely wanted to observe her

usual procedure. Most of the teachers seemed to be set at ease by these explanations.

The first class hour was usually given over to general observation and to the taking of an attention record.[6] The stenographic report and the time records were taken later. The object of this plan was to give the teacher time to settle down before records were taken. The first hour of visitation was usually followed by more "re-assuring discussions." If the schedule did not necessitate the contrary, the teacher was not observed the second hour. Some other teacher in the building was visited. The purpose of this procedure was to give the teacher a chance to collect herself. Of course this was not always necessary. The teacher was then visited for two additional class periods, and sometimes more. If the character of the work, or the "nervousness" of the teacher, or if other unforeseen circumstances seemed to prevent the teacher from appearing to the best advantage, she was visited a second time on another day. Teachers were sometimes visited two and three times before the record was complete and satisfactory. It was not the purpose of the observer to see how many teachers he could visit, or how many cases he could collect, but to study each teacher until he thought he understood her method.

The records were taken in the following order and in the following manner:

1. *General Observations.* These were taken by the writer and included two types of materials: (a) a record of various kinds of written work that appeared on the

[6] This attention record later proved entirely too unreliable to be used.

blackboard, lists of materials and equipment that were in evidence about the room, copies of mimeographed materials, topical outlines, study directions, assignments, etc.; (b) detailed records of observable teacher and pupil activities (Sample Y,[7] *Appendix*). These records included not what the observer thought about the work of the teacher but a strict account of what she actually did. To say that the teacher had a poor attitude is to offer an opinion about the effectiveness of her teaching; but to say that the teacher frequently scolded pupils failing to recite is a statement of a fact. The primary purpose of the observer was to get an exact record of the actual performance of the teacher.

2. *The Attention Chart.* This record was taken by a trained assistant. The procedure followed was that used by Morrison.[8] A number of supplementary records were usually taken, including such items as the number of hands raised, the number of questions asked by pupils, the number of group responses, and the like.

3. *The Time Chart.* This record was made by the writer and consisted of recording upon a timed graph sheet the specific activities of the teacher and pupils during one full class period. (Form X, *Appendix.*) A piece of graph paper with six or seven heavy lines served this purpose admirably. The most convenient number of heavy horizontal lines is ten, although this item is not particularly important. The first heavy vertical line on the sheet of graph paper was numbered zero,

[7] The forms here referred to are reproduced in the original manuscript on file in the University of Wisconsin Library but omitted in the printed report.

[8] Morrison, Henry C. *The Practice of Teaching in the Secondary School.* University of Chicago Press, 1926, pp. 115-134.

the next ten (indicating ten seconds of time), the next twenty, and so on across the page to sixty. Thus one heavy horizontal line across the page represents one minute of activity. By the use of a stop-watch and a wavy line the progress of the recitation was recorded. Certain symbols and abbreviations were used to indicate the kind of activity observed: *T* means teacher; *C* means teacher's comment; *X*, teacher's question; *Pq*, pupil question; *V*, volunteer; *Vc*, volunteer comment; *W*, wait; the numerals followed by *H*, as *3H*, *5H*, etc., the number of hands raised; the numbers under the short vertical lines indicate the pupil who is reciting (the pupils were numbered); the numbers just above the wavy lines, at ten second intervals, represent the number of pupils attentive; and the various notes under each major horizontal line are explanatory comments upon the activity in progress. Complicated as the record may seem at first sight, practice makes it simple enough. Care was exercised in taking these records, and they should be accurate to about one second. However, the introduction of proper laboratory apparatus should make possible a much more exact record.

4. *The Stenographic Report.* This record was taken by a trained assistant who was also an experienced stenographer. The record was very much the same as previous stenographic records except that it was annotated. An attempt was made to keep the record "alive" by entering into the notes the major movements of the class. These notes constituted the "stage directions," so to speak.

5. *The Check List.* The check list was filled in by the writer. (Form Z, *Appendix.*) The first plan was

to fill in every item. However, after a few visits, this did not prove to be feasible. Thereafter, only the major aspects of the recitation were noted.

6. *The Time-Distribution Study.* (Form N, *Appendix.*). The study covered a period of one week. The number of teachers observed was extended somewhat, totaling about 125 altogether.

7. *The Letter from the Superintendent.* (Form O, *Appendix.*) Following the visit, we wrote the superintendent, stating that we were interested in obtaining his frank opinion of the elements of strength or weakness shown by the teacher, and that his statement would be treated as confidential. Most of the superintendents were kind enough to furnish us with these statements.

8. *The Letter from the Teacher.* After the visit, we wrote the teacher, asking her to analyze her own teaching and to describe it just as it appeared to her. (Form R, *Appendix.*) In most instances the teacher complied with this request.

V. How the Facts Were Treated

The facts collected about the teaching of each teacher were of two sorts, namely, qualitative and quantitative. Qualitative differences are defined as differences in the *constituents* of teaching,—verbal behavior, physical activities, and observable conditions of teaching. The study of the characteristic expressions of teachers, for example, brought out some very interesting *qualitative* differences between good and poor teachers. Poor teachers used a number of expressions (see p. 39) not used by good teachers, and vice versa. If further investigations supported these findings, these characteristic ex-

pressions of teachers would constitute a real *qualitative* difference in the teaching of good and poor teachers. In other parts of the study the writer was chiefly concerned with the discovery of quantitative differences. The data relative to the characteristic actions of good and poor teachers may be used to illustrate this point. Good and poor teachers alike, for example, laughed, smiled, gestured, nodded to pupils to recite, pointed to pupil to recite, nodded approval, etc. These activities were studied to discover differences in the frequency with which they were performed. Likenesses and differences of this sort were labeled quantitative.

CHAPTER III

Reliability of the Data-Gathering Devices Used in This Investigation

Unfortunately the several data-gathering devices used in this investigation were not directly checked for validity and reliability. The necessity for such a check of data-gathering devices came as an afterthought. There is available, however, a considerable amount of indirect information about the validity and the reliability of the kinds of data-gathering devices used in this investigation. Studies of the objectivitiy of activities analyses of teaching by Schoonover[1] and Midthun[2] indicate that objectivity is not constant but varies from item to item. The objectivity of items observed and recorded, under the conditions under which their observations were made, varied from (r), .01 to (r) .94 with an average (r) .61. Inasmuch as the observers were relatively untrained, and inasmuch as they observed many items simultaneously, it may be reasonably assumed that the average objectivity for items observed in this study is somewhere around (r) .80. A similar study of the objectivity of the time chart made by Miss Conrad[3] gave an average coefficient of objectivity of .95. The objectivity of the time chart

[1] Schoonover, A. F. *A Study of the Objectivity of a Teacher's Check List.* Bachelor's Thesis, Department of Education, University of Wisconsin, 1927.

[2] Midthun, M. A. *The Objectivity of an Activities Check List for the Study and Improvement of Teaching.* Master's Thesis, Department of Education, University of Wisconsin, 1928.

[3] Conrad, E. B. *A Study of the Objectivity of the Time Chart in Classroom Supervision.* Master's Thesis, Department of Education, University of Wisconsin, 1928.

records taken in this study, due to the training of the observer, was probably around .98. The stenographic reports were taken by a competent stenographer but were probably not without errors. These reports, however, were reasonably complete. The questionnaire study, a time-distribution study of the teaching of the social studies, was of the conventional sort and probably about as reliable as the average questionnaire study. Too much reliance, however, must not be put upon these data, notwithstanding the fact that more than ordinary care was taken in collecting them.

The greatest single source of unreliability of the data presented herein, and likewise applicable to earlier studies by Stevens[4] and Horn,[5] is that of variability in teaching performance. It will be recalled that an instrument of measurement is reliable when it consistently measures what it measures. By reliability is meant, in this instance, the amount of agreement between results secured from two or more applications of a data-gathering device to the same teachers by the same observer. Data presented by Sigurdson and Struck indicate that teaching performance is highly variable. The fact that a teacher is found to ask seventy-three questions during one recitation period is, by no means, certain evidence that she will ask seventy-three questions during the next recitation period. This fact is a very important one in all studies of teaching performance, and it is particularly important where the supervisor wishes to draw inferences about the teaching of individual teachers. How-

[4] Stevens, Rominett. *The Question as a Measure of Efficiency in Instruction.* New York: Teachers' College, Columbia University, 1912.

[5] Horn, Ernest. *Distribution of Opportunity for Participation Among Various Pupils in Classroom Recitations.* New York: Teachers' College, Columbia University, 1914.

ever, this state of affairs is somewhat offset in the present investigation by the fact that the writer was not primarily interested in the work of individual teachers, but interested rather in the performance of groups of good and poor teachers. Chance variations doubtless operated to present a fairly reliable mean performance for each group. The reliabilities of these means are given throughout the study.

CHAPTER IV

Limitations of the Method Pursued

Almost any procedure will be found to have certain limitations. Such is the case with the method used in this investigation. While the method serves admirably the purpose for which it was selected, it is not without disadvantages. Certain conditions need comment:

1. *The number of cases.* The number of cases studied in this investigation is small. Too many investigators assume, however, that the finality of the conclusions is directly proportionate to the number of cases studied. This assumption is not necessarily true. Great discoveries in the physical sciences, for example, have been made with few cases. Of course, the assumption that many cases are desirable comes about in the field of education through over-emphasis upon the statistical method. The present investigation is not primarily a statistical investigation. *Variety* in the cases chosen for study is far more important to this investigation than number. One example of each sort is sufficient for our purposes if it is typical.[1] Positive examples of good and poor teachers were selected,[2] from as many different circumstances as possible. A check on the representativeness of the group selected for this study seems to indicate that a variety of circumstances were present: (1) teachers teaching pupils from excellent home environments,

[1] This is particularly true for qualitative differences and holds for fixed quantitative differences.

[2] Our purpose was not to make a sampling. This term is applicable to statistical investigations.

(2) teachers teaching pupils from poor home environments, (3) pupils of American parentage, (4) pupils of foreign parentage, (5) pupils of high native capacities, (6) pupils of low native capacities, (7) pupils working in well lighted, well heated, well ventilated rooms, (8) pupils working in poorly lighted, poorly heated, and poorly ventilated rooms, (9) teachers and pupils adequately supplied with teaching materials, (10) teachers and pupils poorly supplied with teaching materials, (11) pupils with excellent previous school training, (12) teachers of various parentages, (13) teachers with various types of experience, (14) teachers with various kinds of training;—normal school, college, university, (15) teachers with various personalities, (16) teachers reputed to be strong in different respects, (17) teachers with large classes, (18) teachers with small classes, (19) teachers in large cities, (20) teachers in small villages, etc. The data seem not to have violated the principle of variety, important in laboratory studies.

2. *Important aspects of teaching neglected.* In any investigation one is tempted to eliminate factors which seem to have no connection with the effect under investigation. While the present investigation was approached with an open mind, many errors due to preconceived notions must have crept into the findings. The purpose throughout, however, has been the careful and accurate collection of data upon as many aspects of teaching as possible. No items were included or excluded from this investigation merely because they were obviously true or false. Records were made of many things which seemed, at first sight, silly or entirely unrelated to teaching success. The records kept of the number and kind

of gestures made by the teacher is an illustration in point. The hasty elimination of factors because of preconceived notions of teaching can lead to nothing but false results. Similarly, important factors may have been overlooked because the analysis was incomplete. Further study of the problems of teaching will doubtless show that important aspects have been neglected.

3. *Plurality of causes.* Teaching is a complex phenomenon. Good and poor teaching may be produced by a "plurality of causes."[3] Plants may die, for example, through the removal of any one of the several constituents of plant life,—water, heat, light, etc. We see a body in motion, but it is quite impossible to say which one of many possible agents have set it in motion. Such conditions apparently seem to apply to teaching also. In this respect the *method of agreement* is limited in its application to the study of teaching procedures. Instances may be multiplied, however, until all of the antecedents of a given phenomenon are known, and thus one may be able to infer the antecedents of a particular instance with somewhat greater certainty, than might otherwise be possible. While the number of cases studied in this investigation is not large, the number of instances is probably sufficiently large to make gross errors improbable. Another precaution was taken, however, through the use of the *method of double agreement* which takes into account agreement *in absence* as well as agreement *in presence* of those circumstances contributing to the phenomenon under consideration. If in all cases where teachers fail, certain constituents of good teaching are

[3] Westaway, F. W. *Scientific Method, Its Philosophy and Its Practice.* London: Blackie and Son, 1919, p. 211.

absent, there is a high degree of probability that these particular constituents are the antecedents of teaching success. The same procedure may be used for establishing the causes of failure in teaching.

4. *The law of a single variable.* The application of the *method of agreement* (or of *double agreement* as the case may be) to so complex a phenomenon as teaching must lead invariably to a violation of the law of a single variable, namely that one and only one circumstance must be varied at a time while all other circumstances are held constant. The particular violation of this principle in the present investigation comes about in the following manner:

In collecting data for this study the principle of objectivity was adhered to rigidly.[4] That is, the observer's chief concern was a faithful record of the teacher's various activities,—spoken, written, and enacted. The record indicates what the teacher did and not what the observer thought about what the teacher did. But an activity acceptable enough under one set of conditions might conceivably be much out of place under a different set of conditions. Obviously, the findings are valid only for the grosser aspects of teaching. The sole limitation placed upon the investigation was that it should concern itself with the teaching activities of teachers of the social studies in the grades of the junior and senior high school. Other investigators may care to draw other circles and to study more intensively the factors operating within these

[4] This statement is not in conflict with an earlier one to the effect that subjective impressions as well as objective facts should be taken into account.

more limited areas of teaching, but this was not the purpose of the present investigation.

Within these limitations, the method selected for this investigation serves admirably the purpose for which it was selected, which it will be recalled, was exploratory, and for the purpose of bringing to the surface some of the grosser aspects of good and poor teaching. The methods employed are by no means ultimate procedures in the study of education. They should, however, with due precautions, furnish tentative conclusions that may serve as a basis of further investigation. If the reader approaches the investigation with the expectation (and if this expectation persists) of discovering ultimate laws of learning and teaching, he is destined to be disappointed. The method, as applied in this study, does not serve his purpose.

CHAPTER V

Some Qualitative Differences in the Teaching Performance of Good and Poor Teachers

It is the purpose of this chapter to inquire into the qualitative likenesses and differences that characterize the teaching of good and poor teachers of the social studies in the junior and senior high school. In the discussion of these qualitative differences the word *quality* will be understood to mean constituents, attributes, or characteristics of teaching. These constituents will ordinarily be understood to mean the specific teacher and pupil activities that differentiate the teaching of good and poor teachers. The purpose, then, of this chapter will be to discover those attributes of teaching which are present in the teaching of good teachers but which are not present in the teaching of poor teachers and, conversely, those attributes present in the teaching of poor teachers and not present in the teaching of good teachers. In the numerical treatment of the data presented herein, constituents are considered present whenever they are present in any observable amount whatsoever, and absent, of course, when not present in some observable amount. The discussion of those quantitative differences which characterize the teaching performances of good and poor teachers is reserved for subsequent treatment in another chapter of this monograph. The present chapter is merely an enumeration of those specific activities, practices, and conditions which differentiate the teaching of good and poor teachers.

The materials presented herein are organized under twenty major headings; namely: (1) teaching posture; (2) characteristic actions of the teacher; (3) characteristic comments of the teacher; (4) attention to physical conditions;[1] (5) economy of time; (6) discipline; (7) motivation; (8) provision for individual differences; (9) organization of subject matter; (10) use of illustrative materials; (11) the assignment; (12) the teacher's questions; (13) the pupil's response; (14) the teacher's attention to the pupil's response; (15) the expository comments of the teacher; (16) appraisal of the pupil's response; (17) elements of strength in the recitation; (18) elements of weakness in the recitation; (19) personal qualities of teachers; and (20) general observations.

The first qualitative difference to appear, was found in the characteristic comments of the teachers upon pupils' responses.[2] In studying the comments made by good and poor teachers upon the responses of pupils, it was found that, while there were many expressions in common, there was a considerable list of expressions used by good teachers but not used by poor teachers and vice versa. The three lists of expressions are given in Tables IV, V, and VI. These data are particularly significant, bearing testimony, as they do, to the importance of a process largely neglected in current discussions of teaching. From time immemorial educational writers have stressed the importance of the teacher's questions. They

[1] This item was later eliminated because of insufficient data.

[2] The evidence presented in this chapter is in the main of the teacher-pupil activity type. The writer was most concerned with observable teacher and pupil activities. Such facts seemed most objective.

seem to have overlooked the teacher's comments upon the pupil's response as a factor in teaching success. The teacher, for example, asks the question: "When did Columbus discover America," The pupil replies: "Columbus discovered America in 1619." The teacher says: "You're all wrong." This comment, as will be shown immediately, constitutes an important characteristic of teaching. It is a characteristic in which good and poor teachers show marked differences. It needs more attention in the study of teaching.

Some comments more or less typical of those used by the two groups of teachers are given below. Good teachers, for example, used expressions such as: "I'll accept your statement," "Ask the class," "Can you prove that statement?", "Does that answer my question?", "How do you know?", "I'm not certain about that," "I don't know," "I don't believe so," "Just what do you mean?", "Let's work it out," "My mistake," "Oh, I don't think so," "Pretty good, James," "Surely," "That's a hard question," "Well, that's a pretty good reason," etc. As a matter of fact, these expressions are about what one would expect good teachers to use. Poor teachers, on the contrary, were found to use expressions such as the following: "Anything wrong?", "Sit up straight please," "Is that all?", "I didn't see that in the textbook," "No, that's wrong," "Volunteers," "Oh dear, don't you know that?", "You should study your lesson more," "That isn't very good," "Let's speak up," "Is that all?", "In other words," "You didn't answer my question," "Don't get excited," "Go on," "How many agree?", "Next," "Now, come on," "Don't be modest," "I think you know that," etc. These

TABLE IV

CHARACTERISTIC COMMENT COMMON TO THE TEACHING OF GOOD AND POOR TEACHERS

EXPRESSIONS	NUMBER OF TEACHERS FOUND USING EACH EXPRESSION			
	Total Group		Selected Group*	
	Poor	Good	Poor	Good
1. All right	42	44	22	23
2. Yes	34	34	19	17
3. Well, etc.	29	32	11	12
4. That's, etc.	22	39	5	18
5. Yes, etc.	14	33	5	12
6. Now, etc.	11	12	3	6
7. I, etc.	10	40	3	20
8. No	9	2	3	0
9. No, etc.	8	3	4	1
10. Yes, but	6	5	3	3
11. Anything else, any additions, comments, etc.	6	8	5	6
12. Good or that's good	5	13	0	4
13. Just a minute	4	9	2	5
14. Let's do (so and so)	4	6	1	4
15. Well, yes	3	3	3	0
16. Oh, yes	3	4	0	2
17. Any questions	3	7	1	2
18. That's it	3	2	1	2
19. That's true	3	2	2	0
20. Perhaps	1	3	1	1
21. What else	1	3	1	1
22. Why, yes	1	3	1	1
23. Are you sure	1	4	0	0
24. That's all right	1	4	1	3
25. Total number of teachers in each group	47	47	26	26

* A group of twenty-six of the very poorest, and a like number of the very best, teachers for whom the records were most complete was chosen for retabulation in order to check the consistency of the findings derived from the entire group. This procedure was followed for all tabulations throughout this investigation. These groups will be known in the tables and discussions as the total group and the selected group.

expressions, taken as a whole, are different from those used by good teachers. Should other more extended investigations yield similar results, we should have in these some real qualitative differences in the teaching performances of good and poor teachers.

Not only did these teachers exhibit in their comments qualitative differences, but, if a later discussion may be anticipated, they differed quantitatively as well. The average number of different expressions, twelve, for example, used by good teachers during the recitation period was approximately twice the number of different expressions (seven) used by poor teachers; that is, good teachers possessed a wealth of comments not in the vocabularies of poor teachers. As would be expected, poor teachers were more inclined to overwork such single words as "all right," "yes," "no," etc. Their inability to say anything was also illustrated by the very short list (Table VI) of comments which they used. Poor teachers used all together only ninety different statements, while good teachers used some two hundred and sixty. Thus, good and poor teachers differ both qualitatively and quantitatively in the kinds of expressions they use.

TABLE V

SOME EXPRESSIONS USED BY POOR TEACHERS NOT USED BY GOOD TEACHERS

*A-a, etc.
*Again
A little twisted at the beginning
Another
*Anything wrong?
*Are you working hard?
Aren't you ever going to learn to spell that word?

* Used by teachers of the selected group.

But you didn't answer my question
*But why not?
*Correct
Did she have all her facts straight?
*Don't get her excited
*Don't get too noisy
*Don't let this go over your heads
*Do you agree? etc.
Do you understand that?
*Everyone sit up straight please
Go on
*How many agree?
*I am afraid you are confused
I didn't even hear you up here
*I didn't hear you
I didn't understand what you said
I didn't see that statement in the text
I see the other point of view
I shouldn't agree with you
I thought so
I suppose
Indeed
In other words
Is that the idea?
*Is that all?
Is what?
Just think over that statement now
Let's have it again
*Let's not go so fast
*Let's speak up
Let's try another
Listen
*Look at your work please
Make an example
Maybe
Naturally
*Next topic
*No, it isn't that
No, that's wrong
No, that isn't right
No, you can't think of some more
Now, come on
Now, don't be modest
Now, I think you know what it is
*Oh
*Oh dear, don't you know that?
Oh, never mind

Oh, sit down
Oh, think of something better
Other questions
Say something
*Shall I tell you?
Still colder
Tell me more about this point
*That all depends
That isn't all I want to know
That isn't very good
That's only part of my question
That's the way it goes
*That's most general
That's what I wanted
*That's exactly wrong
Turn on your thinking machine
*Volunteers
Well, a better answer
*Well, of course
Well, that depends
Well, that is hard to say
Well, what about it? etc.
*What?
What are you trying to tell me?
*Why didn't you think of that before?
*Yes I had hoped you would bring that up
Yes, now why?
You are wrong
*You didn't answer my question
You got your work mixed up a bit
You had better think a minute
*You listen while I tell you
You should study your lesson more

TABLE VI

SOME EXPRESSIONS USED BY GOOD TEACHERS NOT USED BY POOR TEACHERS

A good thing to know
Aha, there's a new idea
*All right, I'll accept your statement
And you can't add to that?
*And what more?
*Are you just going to accept that answer, I should like more proof

* Used by teachers of the selected group.

Are you satisfied with that statement?
*Are you with us to-day, James?
*Ask the class
Be careful
Better change your mind about that
Better think again
*But there is another point
*Can anyone help?
Can you help, James?
*Can you prove the statement?
*Can't you guess?
*Can't you supply a better word?
*Certainly
*Cite references
*Come on, more hands
*Come on, you know
*Come on, James
*Didn't you almost choke that word?
*Did you find what you went for?
Does that answer my question?
*Does that suit you?
*Don't be too easily discouraged
Don't read from your notes
Don't you know?
*Don't you know more than that?
*Don't you remember?
Don't you see?
Don't you really think you could?
*Exactly
*Excuse me
*Fine, Frank thought that one out for himself
Get to work quickly
Give some concrete example
*Give some proof for that statement
Give your reasons
*Go ahead
*Good question
Go on, talk to the class
Here, here, here (too many hands)
*How about that?
How do you know?
*I am not quite clear yet, think a moment
I am glad you remembered that
I am sure you can answer that question
I'm waiting
*I'm anxious to know about that

*I'm not certain about that
*I'm not hearing you very well
*I'm afraid this question can't be settled
*I'm certain that you know
*I can't say about that
I can't discuss this question
*I can't just understand that
I didn't understand it that way
*I didn't notice that mistake
I do not understand that statement
I do not believe we are thinking very hard
*I don't know
I don't know about your first point
I don't know what you are getting at
I don't remember that many
I don't know, that would be worth looking up
I don't believe so
I don't know
*I don't like the word you have used
*I doubt that what you say is true
*I guess that is sufficient
I had thought of that
I know, but
*I really don't know either
*I think you are wrong there
*I think we will leave that topic right there
I think that's true
*I think so too
*I think there's another point
*I think that's an important point
*I think the class will be interested, etc.
I think that is what Joe meant
*I wonder if, etc.
I wonder if that is really true
*I wouldn't use a word I didn't understand
I wouldn't go into it too deeply
*Is that right?
Is that so?
*Is that your point?
*Is that important?
Is there more discussion?
Isn't that all right?
*It didn't say
James, answer please
James did nicely
James, I'm surprised
James, if you please

*Just repeat that
*Just what do you mean?
*Just why?
*Let's come back to Jake's problem
Let's get an example
Let's give James a fair chance
Let's have more hands
*Let's look it up
*Let's stick to the question
Let's wake up
*Let some one else talk
*Look it up
*My mistake
*My question may be a little indefinite
Not especially
Not quite
Not quite through yet
*Not quite so fast, I can't understand
*Not so good
*Now be careful
*Now look here
*Now let's see
Now, now, now, can't you read English?
*Now you are on the right track
Now we must pass to something else
*Now what is James trying to say?
*Now where did you find that?
*Oh, don't you remember?
*Oh, I don't think so
*Oh, I misunderstood you
*Oh, I see
*Oh, I think you could
Oh, let's finish please
*Oh, let's stand
*Oh, oh, oh
Oh, stand up straight
*Oh, you are wrong
*Part of your statement was not quite right
Please
Precisely
*Pretty good, James
*Probably my question was not a good one
*Probably not
*Quickly
Remember what I told you
*Something seems to be confusing you
*Speak a little louder, James

*Suppose you "math" sharks work that out
*Sure! sure!
Surely
Steady slowly
Tell me that in a few words now
*Tell us a little more about that
*Thanks
*That's a good question
*That's all wrong
*That's another point all right
*That's been mentioned
*That's easy enough, try it again
*That's interesting
*That's one thing
*That's one way of saying it
That's sufficient
That's terrible
*That's very good
That doesn't tell us very much
*That is a rather hard question
That is much better
That isn't so bad
*That is up to you
*That may be true
That seems queer
That will do
*That would be very interesting
*Then you would say
*There's a difference of opinion
*There's a fight, go to it
Think before you answer
*Turn this way, please
*Uh-huh
*Usually
*Very nice
Wake up
*Well, but
*Well, but see here
Well, do I understand you to say?
Well, I don't know that I get your point
*Well, I don't know
*Well, let's hurry along
*Well, to illustrate
Well, that's at least a thoughtful statement
Well, that's partly right
Well, that's one reason
Well, that's a pretty general reason

*Well, that may be true
Well, that will be fine, but
*Well, that will come up again
*Well, you haven't explained it yet
*Well, you have the general idea
*Well, why?
*Well, we'll drop that subject
Well, what are you going to talk about?
*We are getting a bit confused
We have that
We spoke of that before
*We will not settle that
What about that, James?
What difference does it make?
What does your book say?
*What made you change your mind?
What you say is true but it doesn't answer my question
What's the trouble with that?
*What's your opinion?
*Where could you find that information?
*Where's your authority?
*Who can help out?
Who do you mean by "they"?
*Who else has some ideas?
*Who wants to ask James a question?
Who will help out?
*Who will help James?
Who will go ahead?
*Would you say, etc.?
Why didn't you think of that?
*Why didn't you select that topic?
Why do you think so?
*Yes, but perhaps not, etc.
*Yes, go on
Yes, I think so
*Yes, I think you are right
Yes, no doubt
Yes, of course
*Yes, perhaps
*Yes, right there
*Yes, that's right
Yes, that's all right
*Yes, that's the point
Yes, that's good
*You are not sure
*You are too hazy
*You didn't listen

You don't know?
*You didn't mean that, etc.
*You feel, etc.
You gave me the impression, etc.
*You have the idea
*You had better look that up
*You haven't been thinking much
*You know that, don't you?
You must have read incorrectly
You ought to exhibit a little curiosity about things
You people aren't thinking
*Your statements are correct, except, etc.
You think so?
*You traced your course on the map nicely
*Your view is one-sided
*You weren't quite ready for your topic were you?
You will have to talk louder

A further study was made of the types of comments most frequently made by good and poor teachers. The data are grouped under some twenty headings, including such items as "no comment," "unqualified acceptance of pupil's answer," "unqualified rejection of pupil's answer," etc. The tabulations (Table VII) are based upon an analysis of stenographic records. No significant differences, however, were found in the items studied.

TABLE VII

TYPES OF COMMENTS MADE BY GOOD AND POOR TEACHERS

	GOOD TEACHERS		POOR TEACHERS	
	Av.*	Sigma	Av.	Sigma
1. No comment	11.5	6.6	10	7.6
2. Unqualified acceptance of pupil's answer	11.8	6.7	22.9	13.8
3. Unqualified rejection of pupil's answer	.7	1.1	.9	1.4
4. Tells pupil to be more specific	1.0	1.5	13.0	1.8
5. Follows with more questions	16.5	6.1	18.0	10.0

* Average frequency per recitation of forty minutes.

6. Tentative acceptance of answer followed by question	2.6	2.5	3.3	3.4
7. Tentative acceptance of answer followed by comment	1.4	1.4	1.0	1.1
8. Teacher indicates her own opinion on the matter	2.0	1.5	.8	1.5
9. Gives interesting story, anecdote, illustration	1.2	1.7	1.1	1.6
10. Supplies new information	4.2	3.5	3.9	
11. Indicates relation between subject matter and life	.4	.8	.6	1.6
12. Points out important aspects, with references	4.1	2.7	3.3	2.9
13. Explanation of the setting of the question	1.0	1.3	1.9	1.9
14. Answers questions	1.9	1.9	2.2	2.9
15. Explains words, maps, diagrams, etc.	1.3	1.3	.2	.6
16. Points out relation between course and parts of the course	.5	1.0	.5	2.8
17. Summarizes discussion	4.3	3.2	13.3	
18. Repeats answers	1.3	1.9	6.6	5.6
19. Corrects statements, helps with words, etc.	1.4	1.9	1.7	
20. Asks the pupils to evaluate	1.9	1.9	1.2	1.6

Besides those differences in the comments of good and poor teachers already discussed, important qualitative differences were found in such items as: (1) motivation, (2) organization of subject matter, (3) provision for individual differences, (4) use of illustrative materials, (5) the assignment, (6) appraisal of pupil response, and (7) discipline. These differences will be discussed in the pages to follow.

A considerable number (17)[3] of the poor teachers provided little or no motivation in their teaching (Table VIII). Where the work was at all purposeful, it was

TABLE VIII

MEANS USED IN MOTIVATING WORK

	NUMBER OF TEACHERS USING EACH MEANS			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Little or no motivation in evidence	17	0	8	0
2. Indirect means				
(a) Competitive devices	3	2	1	1
(b) Rewards	0	1	0	1
(c) Penalties	38	47	20	26
3. Direct means				
(a) Interest appeal of subject matter utilized	6	34	3	23
(b) Problem-setting and purposeful activity utilized	0	7	0	6
(c) Interests and experiences of pupils utilized	17	33	8	23
4. Total number of teachers in each group	47	47	26	26

motivated, almost without exception, by the use of some form of indirect incentive. The examination, with a possibility of failure, disgrace to the family, and the like, is very generally used for this purpose. While good

[3] The exact data for all statements will be thus recorded throughout the study. The data can always be readily interpreted by remembering that there are always (or almost always) forty-seven good teachers and forty-seven poor teachers. An approximate percentage for any group can always be struck immediately by doubling the number of cases reported, in this case 17 cases were reported, or approximately 34 percent of all poor teachers.

teachers (47), as well as poor teachers, use the indirect method of motivating learning, the indirect method was usually supplemented by some appeal to the interest and experiences of the pupils (33) or to the interest appeal of the subject matter taught (34). Seven teachers made a definite attempt to use the problem-project method of teaching with purposeful activity. Judged subjectively, from the reaction of the pupils themselves, the differences in the motivating ability of the two groups of teachers were really quite marked. On a four-step scale (Table IX) thirty of the forty-seven poor teachers fell into the two lower groups (*little or no interest, interest fair*); all of the good teachers were in the two upper groups (*good* or *superior*).

TABLE IX

DEGREE OF INTEREST SHOWN BY PUPILS IN THEIR WORK*

CLASSIFICATION	NUMBER OF TEACHERS			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
Little or none	17	0	9	0
Fair	22	0	12	0
Good	8	27	5	12
Superior	0	20	0	14
Total number of teachers in each group	47	47		

* The data presented in this table are subjective estimates based upon the writer's impressions and should be treated as such.

Somewhat related to this problem of pupil-interest is that of teacher-interest. Educational writers invariably insist that pupils pay attention to the teachers; the writer, however, can find no mention of the fact that teachers should give heed to pupils. From the data presented herein, it seems that the attention given by teach-

ers is an important aspect of teaching. Poor teachers (5) are seldom very attentive to the recitations of their pupils; they spend much time in restless activities, reading ahead for the next question, and woolgathering. They show little concern about the work in progress. Forty-six of the good teachers observed were either very attentive or attentive (Table X). There seems thus to be some reason to believe that the amount of attention given by teachers to the responses of their pupils is an important factor in teaching success.[4]

TABLE X

ATTENTION TO PUPILS' RESPONSE*

DEGREE OF ATTENTION	NUMBER OF TEACHERS			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Very attentive	5	26	1	14
2. Attentive	19	20	9	12
3. Fairly attentive	13	1	10	0
4. Passively attentive or indifferent	8	0	5	0
5. Non-attentive	2	0	0	0
6. Total number of teachers				

* The data presented in this table are subjective estimates based upon the writer's impressions and should be treated as such.

In the organization of subject matter, approximately fifty percent (24) of the poor teachers gave the pupils straight textbook teaching; twelve teachers supplemented the textbooks by some use of the various experiences of her pupils; and one teacher supplemented the textbook by the use of application questions (Table XI). If three

[4] The records were not complete enough in this respect to offer a more definite statement.

TABLE XI

ORGANIZATION OF SUBJECT MATTER

METHOD OF ORGANIZING SUBJECT MATTER OBSERVED	NUMBER OF TEACHERS USING EACH METHOD			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Textbook organization (follow textbook)	21	1	14	0
2. Textbook organization plus applications (indicating connection with current life problems)	1	7	0	4
3. Textbook organization plus use of pupil's experience (e.g., familiar illustrations from experience of pupils used to clarify meaning)	12	7	6	2
4. Topical organization (syllabus or outline proposed by teacher independent of textbook)	0	5	0	1
5. Topical organization based upon textbook and outside reading	12	27	5	14
6. Topical organization plus applications	0	19	0	9
7. Topical organization plus use of pupil's experience	5	32	1	19
8. Problem-project type of organization	1	7	1	7
9. Psychologically organized subject matter	0	1	0	0
10. Total number of teachers in each group	46*	47*	26	26

* The work of certain teachers was best described by tabulating it under two or more headings.

levels of organizing subject matter are recognized, namely, textbook teaching, topical teaching, and prob-

lem-project-unit teaching, it may be said that the poor teachers of the social studies are textbook teachers; the good teachers follow, as a rule, some form of topical organization; and a few teachers, mostly good, use the problem-project-unit method.

The situation with reference to the assignment was almost identical with that of the organization of subject matter (Table XII). Poor teachers, almost without exception, make some form of textbook assignment; twenty-one of them merely made a page-to-page assignment; ten supplemented the textbook with questions and special topics. The majority of the good teachers used some form of assignment other than the textbook assignment; eighteen used some form of the topical assignment; seven used the problem-project assignment; and two used the unit assignment. Where good teachers used the textbook assignment, it was always supplemented by topics, questions, or references; ten, for example, used a form of running comment upon the chief topics of the text, a procedure which seemed effective enough. No good teacher made merely a page-to-page assignment.

Very few teachers made any provision for individual differences; forty-six of the forty-seven poor teachers did not make any, and twenty-eight of the good teachers did not (Table XIII). Of the fourteen good teachers who used the ability-group method of providing for individual difference, eleven did so with little or no recognition of the individual differences within the groups. The idea of providing for individual differences seems to be too new to have reached many of the schools. Only eight teachers may be said to have understood the plan

TABLE XII

THE ASSIGNMENT

TYPES OF ASSIGNMENTS MADE	NUMBER OF TEACHERS MAKING EACH TYPE OF ASSIGNMENT			
	Total Group		Special Group	
	Poor*	Good	Poor	Good
1. Page to page assignment	21	0	13	0
2. Page to page assignment plus assigned topics	5	1	3	1
3. Page to page assignment plus questions (dictated or from textbook)	5	5	3	2
4. Page to page assignment plus comment on important points	3	10	2	3
5. Page to page assignment plus references and outside reading	3	2	1	1
6. Mimeographed outline plus comments on important points	0	10	0	8
7. Topical assignment (oral)	0	8	0	5
8. Problem-project assignment	0	7	0	5
9. Teachable units	0	2	0	1
10. Questions (dictated) plus special reports and references	1	0	0	0
11. Outline (dictated) plus special reports and references	1	0	1	0
12. Study assignment and study directions	2	0	1	0
13. Questions in text assigned to individual pupils	1	0	1	0
14. Assignment to follow	3	2	1	0
15. Total number of teachers in each group	45	47	26	26

* Two poor teachers made no assignment.

well enough to have developed a definite program for its adoption.

Good and poor teachers differed both in the illustrative materials used by them in their teaching and in the kinds of materials in evidence about the room (Table XIV and XV). While the standard equipment of blackboards, maps, charts, and reference books were found, to some extent, in the rooms of good and poor teachers

TABLE XIII

PROVISION FOR INDIVIDUAL DIFFERENCES

MEANS OF PROVIDING FOR INDIVIDUAL DIFFERENCES OBSERVED	NUMBER OF TEACHERS USING EACH MEANS			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Little or no provision for individual differences	46	28	26	14
2. Ability groups (X, Y, Z groups)				
(a) With little or no attention to individual needs within groups	1	11	0	6
(b) With attempts to take care of individual needs within groups	0	3	0	2
3. Individual instruction				
(a) Used to supplement other procedures	0	4*	0	3**
(b) Primary means of instruction				
4. The differentiated assignments (contract plan, unit instruction, etc.)	0	4	0	3
5. Total number of teachers in each group	47	47	26	26

* Three cases were tabulated under two headings.
** Two cases were tabulated under two headings.

TABLE XIV

ILLUSTRATIVE MATERIAL IN EVIDENCE ABOUT THE CLASSROOM

	NUMBER OF INSTANCES IN EVIDENCE			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Blackboards	44	45	25	26
2. Bulletin boards	20	45	11	22
3. Maps	39	44	19	26
4. Globes	2	4	2	1
5. Charts	22	32	11	18
6. Reference books	35	40	24	24
7. Notebooks	0	0	0	0
8. Pictures	8	42	7	23
9. Posters	0	1	0	0
10. Cartoons	0	1	0	0
11. Clippings	13	40	5	21
12. Diagrams and graphs	1	3	1	1
13. Scrapbooks	0	2	0	1
14. Lantern slides	0	2	0	0
15. Stereographs	0	3	0	1
16. Motion pictures	0	0	0	0
17. Models	0	2	0	2
18. Real objects	0	3	0	2
19. Preserved specimens	0	2	0	1
20. Materials prepared by pupils	3	13	3	8
21. Other visual materials	0	11	0	2
22. Total number of teachers in each group	47	47	26	26

alike, the presence of materials calling for initiative on the part of teachers were not found in rooms directed by poor teachers. Most every good teacher, (42) had placed pictures in her classroom; poor teachers did not (that is, thirty-nine did not). Forty-five of the good teachers had bulletin boards with clippings and pictures from newspapers and magazines; less than half that number of poor teachers had made similar provision,

TABLE XV

ILLUSTRATIVE MATERIALS IN USE

	NUMBER OF TEACHERS USING EACH TYPE OF MATERIAL			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Blackboard	19	30	11	21
2. Bulletin board	0	2	0	1
3. Globe	0	0	0	0
4. Maps	16	30	9	22
5. Charts	1	14	1	10
6. Reference books	1	13	0	9
7. Map books	3	6	3	5
8. Pictures	2	11	1	8
9. Posters	0	1	0	0
10. Cartoons	0	2	0	0
11. Clippings	0	2	0	2
12. Diagrams and graphs	1	4	1	3
13. Scrapbooks	0	2	0	2
14. Lantern slides	0	1	0	0
15. Stereographs	0	1	0	1
16. Motion pictures	0	0	0	0
17. Models	0	1	0	1
18. Real objects	0	3	0	1
19. Preserved specimens	0	0	0	0
20. Field trips	0	1	0	0
21. Demonstrations	0	0	0	0
22. Pupil experience	15	39	8	24
23. Examples and illustrations	1	5	0	3
24. Other illustrative material	0	0	0	0
25. Total number of teachers in each group	47	47	26	26

and only about half of the latter made any use of the equipment. As was to be expected, only teachers in the larger schools were provided with lantern slides, stereographs, motion pictures, preserved specimens, and models. In thirteen of the classes taught by good teachers the pupils themselves prepared maps, charts, diagrams, etc., which were exhibited in the classroom.

About the same conditions prevailed in the use of these materials as was evidenced by their presence or absence in the rooms of good and poor teachers (Table XV). Poor teachers made little or no use of such materials as bulletin boards, charts, reference books, lantern slides, stereographs, motion pictures, models, or preserved specimens. They did use the blackboard and maps; that is, nineteen poor teachers used the blackboard and six-

TABLE XVI

APPRAISAL OF PUPIL RESPONSE

TYPES OF APPRAISAL USED	NUMBER OF TEACHERS USING EACH TYPE OF APPRAISAL			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
Teacher-appraisal	44	14	25	6
Teacher-appraisal plus an occasional question or comment from the class	0	13	0	9
Teacher-appraisal plus free discussion	0	11	0	7
Class appraisal (formalized procedure)	1	7	1	2
Self-appraisal	0	2	0	2
Little or no appraisal	4*	0	4*	0
Total number of teachers in each group	45	47	26	26

* These teachers are tabulated under two headings.

teen were observed to use maps. The interesting thing about the data here presented for good teachers is that they too made so little use of the illustrative materials provided for them. While most good teachers, for example, had supplied themselves with pictures, clippings, and reference books, very few were seen to use them.

The practice of using blackboards and maps (approximately seventy-five percent), however, seemed to be pretty well established in the activities of good teachers.

Some attention was also given in this study to the method of appraising the responses of pupils. For example, the teacher says: "Who do you consider the greatest Civil War general?" The pupil replies: "Lincoln." The teacher says: "You're wrong." That is, the teacher does the appraising. It seems to be taken for granted in many instances that this is the teacher's special prerogative. The practice of good and poor teachers in this respect is interesting (Table XVI). Among poor teachers, if there was any appraisal at all, the teachers did it (44). While a few good teachers (14) followed this procedure, the tendency (33) was decidedly in the direction of pupil or class appraisal, and, in some cases (24) the appraisal was a coöperative affair shared by the teacher and the pupils.

This coöperation ranged all the way from an occasional comment or question from the class to a free class discussion. Seven of the teachers had a formal procedure by which members of the class, having comments or questions upon the previous recitation, stood and addressed the pupil reciting. Two teachers, one in using map work, and another with project work, gave the pupils an opportunity to appraise their own work. The idea of self-appraisal, however, seems not to be well established in the teaching practices of the teachers of the social studies. The average good teacher relies upon class discussion; the average poor teacher does the appraising herself. In this respect the differences between good and poor teachers are marked.

TABLE XVII

DISCIPLINARY CONDITIONS IN CLASSES TAUGHT BY GOOD AND POOR TEACHERS

CLASSIFICATION	NUMBER OF TEACHERS			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Excellent	0	32	0	21
2. Good	17	14	9	5
3. Fair	20	1	9	0
4. Poor (actually disorderly)	10	0	8	0
5. Total number of teachers in each group	47	47	26	26

TABLE XVIII

A LIST OF THE DISCIPLINARY SITUATIONS WHICH PRESENTED THEMSELVES IN THE CLASSES OBSERVED

KIND OF DISCIPLINARY SITUATIONS OBSERVED	NUMBER OF INSTANCES FOR EACH GROUP OF TEACHERS			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Whispering	20	6	9	3
2. Giggling and laughing	6	0	4	0
3. Talking aloud	6	0	4	0
4. Foolish remarks	5	0	4	0
5. Annoying neighbor (pulling hair, punching, etc.)	4	0	3	0
6. Throwing chalk, paper, books, erasers, etc.	2	0	1	0
7. Walking aimlessly about room	2	0	1	0
8. Restlessness	8	1	3	1
9. Lack of attention	7	0	5	0
10. Shuffling feet, coughing	4	0	3	0
11. Talking back to the teacher	0	0	0	0
12. Altercations	0	0	0	0
13. Fights	0	0	0	0
14. Total number of teachers in each group	47	47	26	26

TABLE XIX

THE DISCIPLINARY ACTIVITIES PERFORMED BY TEACHERS IN MEETING DISCIPLINARY SITUATIONS*

TYPES OF DISCIPLINARY ACTIVITIES PERFORMED	NUMBER OF TEACHERS USING EACH TYPE			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Pays no attention	3	0	0	0
2. Looks at pupil or in direction of source of trouble	1	3	1	1
3. Teacher shakes head	1	2	1	0
4. Calls for attention	4	0	3	0
5. Addresses offending pupil	0	4	0	3
6. Scolds pupil or class or otherwise discusses disciplinary situation	1	1	0	0
7. Teacher walks to pupil in trouble	1	3	0	3
8. Removes source of difficulty	1	0	0	0
9. Removes pupil to another part of the room	1	0	1	0
10. Keeps pupil after school	1	0	1	0
11. Sends pupil from room	0	0	0	0
12. Corporal punishment	0	0	0	0
13. Total number of teachers in each group	14	13	7	7

* The data presented herein are incomplete. They illustrate, however, a method of treating the subject.

The last item of this group to be discussed is that of discipline. The disciplinary situation within the two groups of teachers was somewhat more marked than was expected. In the first place, besides whispering, no disciplinary situations presented themselves in the classes taught by good teachers. When subjectively appraised on a four-step scale, the discipline of forty-six of the forty-seven good teachers was good or excellent. In no

case could the discipline of a poor teacher be said to have been excellent. In eight cases the teacher had no semblance of order whatsoever; in sixteen cases the teacher's chief difficulty was of a disciplinary character (Table XVII).

In studying the specific disciplinary problems which presented themselves to these teachers, whispering was found to occur most frequently (20), restlessness (8), and inattention next (7), giggling and laughing next (7), talking aloud next, and so on down a long list of possible misdemeanors, including: foolish remarks; annoying neighbor (pulling hair, pinching, punching, etc.), shuffling feet, coughing and grunting, noises of various sorts, throwing chalk, paper, books, erasers, etc; talking back to the teacher, altercations between pupils, fights, etc. (Table XVIII). While the data were not complete, discipline seemed to lend itself best to quantitative study, the poorness of the discipline varying directly with the frequency with which certain specific disciplinary situations present themselves. Some data were collected upon the specific activities of teachers (Table XIX), but the data are too incomplete to make generalizations possible.

Besides these major activities of the recitation, a number of less important ones were studied, such as teaching posture, characteristic actions of the teacher, etc. (Table XX). No marked differences presented themselves in these items of teaching. Both good and poor teachers stood and remained seated. No good teacher, however, sat for an entire period; nine poor teachers did. Good teachers were more inclined to move about and to lean upon the furniture than poor teachers. Three of them

sat on top of the teacher's desk. These facts were all quite interesting, departing, as they do, from current theories of teaching. After watching a number of teachers teach, it is evident that moving about the room and

TABLE XX

TEACHING POSTURE

TYPE OF ACTIVITY	NUMBER OF TEACHERS			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Disposition of hands				
(a) Folds arms	7	9	4	6
(b) Folds hands	4	7	1	3
(c) Crosses hands over knee	1	0	0	0
(d) Puts hands to chin or cheek	3	3	3	1
(e) Puts hands in pockets	1	3	1	3
(f) Puts thumbs in vest pockets, suspenders, etc.	1	0	0	0
(g) Puts hands on hips	1	2	0	1
(h) Holds some object, book, pencil, eraser, chalk, etc.	3	6	1	1
(i) Hands on desk, chair, etc.	4	10	1	3
(j) Does nothing	20	17	15	8
(k) No report	0	0	0	0
2. Stands (Time)				
(a) Never stands	9	0	6	0
(b) During part of period	7	8	5	7
(c) During most of period	6	12	2	6
(d) During entire period	25	27	12	13
(e) No report	0	0	0	0
3. Stands (Place)				
(a) Back of desk or chair	14	10	7	8

(b) In front of desk	6	23	3	12
(c) At either side of desk	3	9	1	3
(d) At side of room	4	9	2	5
(e) At rear of room	3	0	1	0
(f) No report	10	7	7	0
4. Sits (Time)				
(a) Never sits	25	27	12	13
(b) During part of period	9	18	3	12
(c) During most of period	4	2	3	0
(d) During entire period	9	0	6	0
(e) No report	0	0	0	0
5. Sits (Place)				
(a) At desk	15	10	9	4
(b) On teacher's desk	1	3	0	2
(c) On pupil's desk	0	2	0	2
(d) At side of room	1	2	1	1
(e) At rear	2	5	2	2
(f) No report	0	1	0	1
6. Walks about	16	24	9	10
7. Leans on furniture: Desks, walls, blackboards, etc.	16	24	9	10
8. Total number of teachers in each group	47	47	26	26

using the hands reveal important facts about teaching personality. Unfortunately, however, the data were not complete enough to permit any final conclusions. Many more good teachers (31) laughed with the class about various incidents than did poor teachers (7). Good teachers were much more inclined to smile appreciatively from time to time (32) than poor teachers (22). Good teachers (24) were more inclined to gesture, to nod to pupils to recite, to point to pupils to recite, and to nod approval. While the differences are not at all marked, they are consistently in favor of the good teacher.

Finally, after a thorough study of each teacher's work had been made, three items of additional informa-

TABLE XXI

CHARACTERISTIC ACTIONS OF GOOD AND POOR TEACHERS

TYPE OF ACTIVITY	NUMBER OF TEACHERS PERFORMING EACH			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Laughs				
(a) Little or no laughing	12	1	6	0
(b) At pupil or class	2	0	2	0
(c) With class	7	31	4	16
(d) Laugh mannerism, abruptness, etc.	1	0	1	0
(e) No report	25	15	13	10
2. Smiles				
(a) Pleasantly or appreciatively	22	32	11	16
(b) Sarcastically, critically, etc.	3	1	2	0
(c) Does not smile	8	1	6	0
(d) No report	14	13	8	10
3. Jokes with class	0	3	0	3
4. Giggles	1	0	1	0
5. Gestures	19	24	7	14
6. Nods to pupils to recite	0	5	0	2
7. Nods approval	16	24	7	11
8. Points at pupil to recite	3	8	1	5
9. Snaps finger for attention	1	0	0	0
10. Stamps foot (''hurry up,'' attention, etc.)	1	1	0	0
11. Puts hand on pupil's head, shoulder, etc., to recite	0	3	0	2
12. Shakes head (disapproval)	0	2	0	0
13. Waves at pupil to sit down	0	1	0	1
14. Total number of teachers in each group	47	47	26	26

tion of a qualitative sort were brought together, namely: (1) the major elements of weakness in each teacher's teaching; (2) the major elements of strength in each

teacher's teaching; and (3) such personal qualities of these teachers as seemed to impress themselves upon the observer. These are summarized in the discussion immediately following.

After the data pertaining to each case, including letters, stenographic reports, time charts, etc., were all in hand, each case was carefully analyzed in order to discover wherein lay the secret of each teacher's success or failure. These facts were brought together (Tables XXII-XXV) as a check upon the consistency of the findings set forth in the earlier parts of this chapter. The procedure followed was quite traditional and not objective. While there is nothing particularly new in these findings, they do support very satisfactorily, for the most part, the situation already pointed out in earlier parts of this chapter. The following elements of strength (given in order of their frequency) were noted in the teaching of good teachers: (1) interest in pupil's response (38), (2) use of illustrative materials (36), (3) knowledge of subject matter (35), (4) a well-developed assignment (32), (5) good notebooks and outside reading (31), (6) a well-established examination procedure (28), (7) a conversational manner (25), (8) frequent use of a pupil's experience (24), (9) a wealth of commendatory statements (22), (10) good technique in asking questions (21), (11) ability to stimulate interest (20), (12) socialization of class work (16), (13) definite technique in supervised study, (11), and (14) willingness to experiment (10). In all of these factors good teachers were distinctly superior to poor teachers (Table XXII). In addition to these more or less universal characteristics of good teachers, there were a number of less frequently

TABLE XXII

SOME ELEMENTS OF STRENGTH FOUND IN THE TEACHING OF TEACHERS OF THE SOCIAL STUDIES

ELEMENTS OF STRENGTH	NUMBER OF TEACHERS POSSESSING EACH			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Interest in pupil response	5	38	1	20
2. Use of illustrative materials	0	36	0	25
3. Knowledge of subject matter	7	35	2	20
4. A well-developed assignment	0	32	0	15
5. Good notebooks and outside reading	1	31	1	16
6. Well-established examination procedure				
7. Conversational manner	7	25	1	17
8. Wealth of commentory statements	5	22	2	16
9. Frequent use of pupils' experience	4	24	2	20
10. Good technique in asking questions	0	21	0	14
11. Ability to stimulate interest	0	20	0	14
12. Socialization of class work	1	16	1	14
13. Definite supervised study technique	1	11	1	7
14. Willingness to experiment	0	10	0	7
15. Total number of teachers in each group	47	47	26	26

mentioned elements of strength noted in their teaching. These elements are interesting because they are indicative of the individuality of teachers. One teacher brought to her work an unusually fine cultural background, another an intense interest in her subject, another ability to arouse real thinking, etc. No teacher possessed all of

these qualities; some teachers, the more favored, possessed a number of them. The list of items is given in Table XXIII.

In studying the outstanding elements of weakness in the teaching of poor teachers there seem to be fewer common characteristics than there were elements of strength in the teaching of good teachers. The items most frequently noted in the teaching of poor teachers (given in order of frequency) were: (1) no socialization

TABLE XXIII

OTHER LESS FREQUENTLY MENTIONED ELEMENTS OF STRENGTH NOTED IN THE TEACHING OF GOOD TEACHERS

1. Ability to produce real thinking
2. Ability to handle pupils
3. Ability to get pupils to work
4. Ability to put meaning into facts
5. Ability to secure pupil-participation
6. Ability to get a high quality of work
7. Application of subject matter to situations of everyday life
8. Attention to details
9. Care in planning work
10. Care in selecting subject matter
11. Effectiveness in clearing up difficulties
12. Emphasis upon open-mindedness
13. Fine power of interpretation
14. Frequent drills and reviews
15. Fine cultural background
16. Good organization ability
17. High standards of workmanship
18. Insistency upon accuracy
19. Interest in pupils
20. Interest in subject
21. Promotion of group-projects
22. Psychologized subject matter
23. Summary of discussions
24. Thoughtful way of proceeding with discussion
25. Well-developed plan of written work.
26. Well-developed problem-project procedure
27. Well-developed logical presentation of subject matter

TABLE XXIV

SOME ELEMENTS OF WEAKNESS FOUND IN THE TEACHING OF TEACHERS OF THE SOCIAL STUDIES

ELEMENTS OF WEAKNESS	NUMBER OF TEACHERS EXHIBITING EACH			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. No provision for individual differences	46	28	26	10
2. No socialization	43	0	23	0
3. Formal textbook teaching	40	16	22	7
4. Inability to stimulate interest	39	0	21	0
5. Weak discipline	17	0	10	0
6. No daily preparation	13	0	8	0
7. No interest in work	8	0	5	0
8. No knowledge of subject matter	6	0	5	0
9. Total number of teachers in each group	47	47	26	26

TABLE XXV

OTHER LESS FREQUENTLY MENTIONED ELEMENTS OF WEAKNESS FOUND IN THE TEACHING OF POOR TEACHERS

1. Poor attention of class
2. Character problem (outside of class)
3. Checking work, no systematic method
4. Dictatorial, aroused antagonism
5. Drills uninteresting
6. English (not good)
7. Enunciation poor
8. Expected too much of pupils
9. Failed to get results
10. Failed to gain respect of pupils
11. Favoritism toward individual members of class
12. Giggles (peculiar mannerism)
13. Group response, use of
14. Interpretation (poor, verbal, not easily understood)
15. Indifferent to criticism
16. Lacked ability to organize work
17. Lacked human contacts
18. Lacked knowledge of details

19. Lacked tact in handling disciplinary situations
20. Laughed at pupils' mistakes
21. Laughed abruptly (easily provoked)
22. Loafed at times
23. Made too much of pupil-response
24. Mistakes and errors not corrected
25. Modest to point of shyness
26. No knowledge of subject matter
27. Nagged pupils
28. Nervous (coughed frequently)
29. No understanding of pupils
30. Overemphasized details
31. Too much supervised study and notebook work
32. Too anxious to please
33. Over-socialization; teacher completely eliminated herself (read morning paper while class recited)
34. Poor relations between pupils and teacher
35. Preparation, no preparation to teach subject
36. Pupil experience, no use made of it
37. Pupils didn't know, just plain guessing
38. Pupils not held to careful statements
39. Questioning, lacked control over technique
40. Talked too fast
41. Talked down to pupils
42. Did not talk loud enough
43. Teaching procedure poor
44. Teacher limp, passive, and embarrassed
45. Teacher resorted to bluffing
46. Teacher too friendly with boys
47. Teacher too friendly with girls
48. Teacher's relation with older boys not good
49. Teacher's relation with pupils not good (cold)
50. Slow-moving class
51. Teacher and community not coöperating
52. Unstable in liking or disliking pupils
53. Verbal and abstract
54. Walked rapidly up and down
55. Will not take suggestions
56. Wasted time

(43), (2) formal textbook teaching (40), (3) inability to stimulate interest (39), (4) weak discipline (17), (5) no evidence of daily preparation (13), (6) no interest in work (8), and (7) no knowledge of subject matter (6) (Table XXV).

In addition to these general characteristics, there were a number of other elements associated with failure. The poor teachers seemed to put more individuality into their failures than good teachers did into their successes. One teacher failed because she was too friendly with the boys in her classes, another because she was lazy and loafed, another because she would not coöperate, another because she lost her temper and nagged her pupils, and so on through a long list of items (Table XXVI). The list is a very long one, indicating somewhat the difficulty of the problem ahead in the supervision of weaker teachers.

Finally, the personal qualities of good and poor teachers were studied. As the writer completed each observation, he made notations concerning each teacher of the personal qualities with which he was most impressed.

While the observer was familiar with the entire list of qualities commonly found in check lists, no attempt was made to check them systematically. There was always something about each teacher that impressed him; these unselected first impressions were recorded. Thus, in the data to follow, if we find that a teacher, ordinarily judged to be well dressed, was not so described, it does not mean that the teacher was not well dressed, but that this trait did not impress the observer.

These personal qualities are very important ones from the standpoint of supervision. It is very difficult for some supervisors to distinguish between good-looking teachers and good teaching. From the evidence at hand, it seems that when judged by personal appearance, personal charm, and attractiveness, poor teachers have the advantage over good teachers. Good teachers, however, showed marked superiority in physical vigor and in en-

TABLE XXVI

PERSONAL QUALITIES OF GOOD AND POOR TEACHERS

TRAITS OBSERVED	NUMBER OF TEACHERS EXHIBITING EACH TRAIT			
	Total Group		Selected Group	
	Poor	Good	Poor	Good
1. Personal Appearance				
(a) attractive	10	6	8	5
(b) possessed personal charm	4	2	1	2
(c) good personal appearance	28	15	14	9
(d) neatly dressed	8	10	5	7
Total for this item	50	38	28	23
2. Energy and Vitality				
(a) energetic	3	4	1	3
(b) forceful	–4	2	–4	1
(c) vivacious	0	2	0	2
(d) alert	2	8	1	2
(e) enthusiastic	–18	28	–15	14
Total for this item	–17	44	–17	22
3. Self-control				
(a) self-controlled	3	25	2	14
(b) self-possessed	3	10	0	7
(c) calm	–2	1	0	0
(d) patient	–4	32	–2	23
(e) confident	–1	2	–1	2
(f) quiet	3	5	1	2
(g) reserved	1	4	0	2
(h) modest	3	1	2	1
Total for this item	6	80	2	51
4. Relations with pupils				
(a) appreciative	13	36	6	20
(b) pleasant	17	22	7	15
(c) sympathetic	–3	15	–1	9
(d) kindly	9	3	5	3
(e) human	0	7	0	6
(f) congenial	0	3	11	3
(g) friendly	0	2	0	1
(h) good natured	1	2	2	1
(i) likeable	4	1	2	1
Total for this item	41	91	22	59

5. Sincerity				
(a) earnest	0	1	0	1
(b) sincere	0	4	0	3
(c) determined	2	4	1	3
(d) strong	0	3	0	2
(e) industrious	3	3	0	2
Total for this item	5	15	1	11
6. Speaking voice				
(a) good teaching voice	17, −4	12	10, −3	7
(b) conversational manner	7	25	1	17
(c) enunciation	−1	0	−1	0
(d) talked too fast	−1	0	0	0
(e) did not talk loud enough	−1	0	−1	0
Total for this item	17	37	6	14
7. Miscellaneous positive traits				
(a) sense of humor	0	10	0	8
(b) courteous, polite	3	15	1	12
Total for this item	3	25	1	20
8. Miscellaneous negative traits				
(a) sarcastic	8	0	3	0
(b) lacked moral standards	4	0	4	0
(c) lazy	1	0	1	0
(d) shy	1	0	1	0
(e) plain bluffing	1	0	1	0
(f) unstable in likes and dislikes	1	0	0	0
(g) dictatorial	1	0	1	0
(h) showed favoritism	1	0	0	0
(i) nagged pupils	1	0	1	0
(j) coöperation, lack of	1	0	1	0
(k) indifferent to criticism	1	0	0	0
(l) lacked loyalty	1	0	0	0
(m) nervous	2	0	1	0
(n) quick tempered	1	0	1	0
Total for this item	25	0	16	0

thusiasm; many poor teachers showed an absence of these qualities. Very few writers have placed sufficient

emphasis upon energy, vitality, and alertness as prerequisites to teaching success. Good teachers showed superior self-control (this was to be expected), less reserve, and greater earnestness. There was really a marked difference in the amount of self-control shown by good teachers when compared with poor teachers. Good teachers were much more appreciative, more sympathetic; and much pleasanter, on the whole, than poor teachers. In this connection, as has already been noted, good teachers were in the habit of nodding appreciatively, commenting favorably, and smiling as they worked with their pupils in the classroom. So marked is this practice among good teachers and so noticeably absent among poor teachers that it is almost possible to judge the quality of teaching by the number of nods and smiles distributed about the class during a certain period. Good teachers also usually possessed a better speaking voice and a keener sense of humor than poor teachers. Poor teachers seem to be utterly devoid of a sense of humor. Finally, poor teachers possessed, besides these positive qualities, a number of negative attributes not found among good teachers; some were sarcastic, some dictatorial, and others indifferent. A complete list of these qualities is given in Table XXVI.

Summary. A number of differences were discovered in the teaching performance of good and poor teachers. These may be listed as follows: (1) ability to stimulate interest, (2) wealth of commentarial statements, (3) attention to pupils' recitations, (4) topical or problem-project organization of subject matter, (5) well-developed assignments, (6) frequent use of illustrative materials, (7) a well-established examination procedure,

(8) effective methods of appraising pupils' work, (9) freedom from disciplinary difficulties, (10) knowledge of subject matter, (11) conversational manner in teaching, (12) frequent use of pupils' experiences, (13) an appreciative attitude (as evidenced by nods, comments, and smiles), (14) skill in asking questions, (15) definite study helps, (16) socialized class procedures, and (17) willingness to experiment.

While these differences in the teaching performance of good and poor teachers are significant, there were no qualities, with the probable exception of motivation, discipline, and knowledge of subject matter, possessed by all good teachers that were not possessed by some poor teachers and vice versa. This statement means that, as a study to determine critical factors[5] of teaching, the present study is unsatisfactory. This fact is particularly important from the point of view of classroom supervision since one would never be quite certain of differentiating good teachers from poor teachers by means of the kinds of information collected in this chapter. We could, of course, say that a certain activity was frequently found in the teaching performance of good teachers or of poor teachers, or that it was desirable or undesirable, but we

[5] Biological scientists in their studies of different forms of life have described certain factors as *critical* or as *conditioning* life. These factors are the water, heat, light, and oxygen, without any one of which life cannot exist. Reasoning in the same way, a critical factor of teaching is one whose absence or presence determines good or poor teaching.

Teachers were found to fail from fifty-six causes. Each cause of failure was checked against the teaching performance of the forty-seven good teachers for whom complete records were available. The data were not sufficiently complete, however, to make it reasonably certain which were and which were not *critical* factors of teaching.

could not say that the activity was a critical factor in teaching success.

A distinction is drawn between *critical* and *contributing* factors of teaching. A critical factor is one which is so important that no teacher may succeed without it. To find teachers who succeed without knowledge of subject matter, or without discipline or personal charm is to remove these characteristics, however important they seem to be, from the list of critical factors of teaching. A contributing factor of teaching is any factor which may produce an appreciable change in teaching efficiency. The great majority of factors with which teachers, principals, and supervisors are concerned are not critical. This does not mean that they are not important. Good teaching is probably the result of many small matters well done. To say that factors are contributing and not critical does not label them as insignificant.

CHAPTER VI

Some Quantitative Differences in the Teaching Performance of Good and Poor Teachers

The purpose of this chapter is, to discuss in some detail, a limited number of more or less typical quantitative differences in the teaching performances of good and poor teachers.

Three lines of investigation were pursued: (1) a time-distribution study of the amount of time given to various aspects of the recitation, such as the assignment, class discussion, supervised study, tests and quizzes, notebook work, etc. (Form N, *Appendix*); (2) a time-chart study of the amount of teacher-talk, the amount of pupil-talk, the average length of the teacher's questions, the average length of the pupil's response, etc. (Forms X, Xa, and Xb, *Appendix*); and (3) a study of the kinds of questions asked by good and poor teachers, the number of thought-questions, the number of fact-questions, the ratio of thought-questions, to fact-questions, etc.

1. *A Time-Distribution Study of the Teaching of Good and Poor Teachers of the Social Studies.* The purpose of this investigation was to discover such relationship as might exist between the amount of time given to various aspects of the recitation, such as the assignment, class discussion, supervised study, map work, notebook work, etc., and teaching ability. Each of the ninety-four teachers participating were asked to keep a record, for a period of one week, of the amount of time given to various aspects of the recitation. (Form N, *Appendix.*) These data were found to be reasonably complete for

thirty-nine good teachers and for thirty-two poor teachers.

If the reports from teachers are to be relied upon, poor teachers spend more time in making assignments, in tests, and quizzes, in map work, in book reports, in dramatization, and in current events; good teachers spend more time in supervised study, notebook work, written work, topical reports, special reports, special projects, and debating. The differences in the amount of time given to these various aspects of the recitation were, however, in no instance, statistically significant. This statement is based upon an examination of the means and standard deviations for the several items reported in Table XXVII. Too much reliance must not, however, be put upon these data. While the teachers evidently reported the amount of time that they thought they spent upon these various activities, there was great discrepancy between their reports and the actual time expended, as it was secured from a time-chart record, for the single item in which their reports and the writer's observations overlapped, namely, for the time consumed in making assignments. It was reported, for example, that poor teachers spent 24.5 minutes in making assignments and good teachers 21.7 minutes. The writer found, from about ninety observations of the teaching of good and poor teachers, that they actually spent 1.3 and 4.7 minutes, respectively, on the average, in making assignments. There were probably other errors due to misinterpretation of the form to be used, errors of calculations, etc.

One of the most striking aspects of these data is the marked variability revealed by them in teaching performance. Good teachers, for example, seem to function

TABLE XXVII

THE DISTRIBUTION OF TIME OF GOOD TEACHERS AND POOR TEACHERS IN CERTAIN CLASS ACTIVITIES

ACTIVITIES	GOOD TEACHERS		POOR TEACHERS	
	Mean	Sigma	Mean	Sigma
1. The assignment	21.7*	12.4	24.5	11.7
2. Class discussion (Total)	110.2**	34.5	107.6	32.5
3. Supervised study	34.5	27.8	27.6	34.7
4. Tests, quizzes, etc.	17.7	9.9	20.6	13.2
5. Notebook work	6.5	12.4	5.0	12.0
6. Other written work	.4	2.4	.2	.9
7. Map work				
8. Book reports	1.6	5.1	2.0	5.1
9. Topical reports	14.4	14.5	11.8	17.3
10. Special reports	5.6	13.0	1.5	4.3
11. Special projects	5.3	13.5	3.0	7.2
12. Dramatization	.5	2.5	.8	4.4
13. Debating				
14. Current events	15.6	15.5	17.3	17.3
15. Other activities	2.0	6.3	2.6	6.9

* Time spent for a period of one week or for five forty-minute recitations.

** Secured by adding all time given to discussion.

successfully within wide ranges of time expenditures. This fact is consistently borne out by other data presented in this chapter. There seems thus to be no optimum time expenditures for those aspects of the recitation studied herein. However, this can scarcely be true, since *no expenditures* for many activities would mean no success in teaching. What the data probably mean is that there is a liberal time range within which teachers may successfully operate. Final conclusions should, however, be withheld until a restudy has been made.

A further study was made of the relationship between teaching ability and time expended upon various aspects of the recitations by correlation methods. A rank order rating was first made of each teacher's merit from the

composite ratings of each teacher (See Chapter I) for method used to secure these ratings. This ranking was not very satisfactory, but was probably sufficiently exacting to serve the purpose of this investigation. These ranks were then correlated with the amount of time expended upon various aspects of the recitation. The data are summarized in Table XXVIII. The correlations are all low, and, in no instance, statistically significant. The findings confirm those reported in Table XXVII.

TABLE XXVIII

THE RELATIONSHIP BETWEEN TEACHING ABILITY AND TIME EXPENDED UPON VARIOUS ASPECTS OF THE RECITATION

ACTIVITIES	R	P E
1. The assignment	—.234	.075
2. Class discussion	+.088	.08
3. Supervised study	+.171	.077
4. Tests, quizzes, etc.	—.147	.078
5. Notebook work	+.071	.079
6. Other written work	+.026	.08
7. Map work	—.129	.078
8. Book reports	—.138	.078
9. Topical reports	+.032	.08
10. Special reports	+.129	.078
11. Special projects	—.077	.079
12. Dramatization	—.080	.079
13. Debating	+.010	.08
14. Current events	—.063	.079
15. Other activities	+.005	.08

If we assume that these time reports are reliable and wish a further explanation of the findings, the most probable explanation is that time expended in class taken alone is not an adequate measure of teaching success. These records, it will be noted, cover time expenditures in class, not time expenditure out of class. The reports returned from good teachers were supplemented, in most

instances, by lists of out-of-class activities; this was not true of the reports from poor teachers. If a better understanding of the real situation is desired, both class and extra-class activities would probably have to be considered. In-class activities were chosen in this investigation, since they are the activities which supervisors most frequently see in supervision. It is doubtful, however, whether time expended in class upon such items as those reported in this study are reliable indices of teaching ability.

2. *A Time Chart Study of the Teaching Performances of Good and Poor Teachers.* In order to get more data about certain aspects of the recitation, a time chart record was made for some sixty-seven of the teachers included in this investigation, thirty-three good teachers and thirty-four poor teachers. Data were secured for the following aspects of teaching: the amount of time spent by the teacher, the amount of time spent by the pupils, the average length of the teacher's question, the average length of the pupil's response, the average number of hands raised, the average number of questions asked by the class, the number of volunteer contributions by members of the class, and the percentage of pupils participating in the class discussion. A summary of these data is presented in Table XXIX. While good teachers did less talking, spent less time in asking questions, and got better responses from pupils, as measured by the length of the response, the number of hands raised for each question, the percentage of pupil participation, and the number of volunteer contributions from members of the class, than did poor teachers, the differences were in all instances statistically

insignificant. This statement is borne out by an examination of the means and standard deviations for the several items presented in Table XXIX. The three most conspicuous findings in these data were (a) the great amount of talking done by both good and poor teachers, (b) the short responses made by pupils (approximately twelve seconds for each response on an average), and (c) the large number of questions asked by both good and poor teachers. In this respect, the study confirms an earlier study by Romiett Stevens.[1]

The average number of questions asked for a recitation period of forty minutes, for good and poor teachers, were 92.7 and 101.7, respectively. Miss Stevens found that teachers asked, on the average, 81.2 questions per recitation period. Miss Stevens does not give the exact length of the recitations for which these data were secured but they were for recitations ranging from thirty to forty-five minutes in length. When the number of questions for four recitations, for which the time is known, is averaged, the number of questions asked for a forty-minute class period is 103. From these facts it is apparent that the situation has not materially changed during the fifteen-year period which has elapsed between the two studies.

It is probably true, also, that the theoretical considerations advanced by Miss Stevens against large numbers of questions remain about as they were fifteen years ago. Miss Stevens makes seven points:

[1] Stevens, Rominett. *The Question as a Measure of Efficiency in Instruction.* New York: Teachers' College, Columbia University, 1912.

TABLE XXIX

A TIME-CHART STUDY OF THE TEACHING PERFORMANCE OF GOOD AND POOR TEACHERS

ITEM	AVERAGE		STANDARD DURATION	
	Good	Poor	Good	Poor
Percent of Recitation				
1. Percent of recitation time consumed by the teacher	52.0*	56.7*	7.1	13.0
2. Percent of recitation time consumed by pupils	48.0	43.3	15.6	9.4
3. Average length of the teacher's questions (seconds)	13.0	14.2	5.1	5.9
4. Average length of pupils' response (seconds)	14.3	10.9	5.2	5.5
5. Average number of hands raised for each question	5.2	3.4	5.2	1.9
6. Ratio of hands raised to number of pupils in the class	.2	.2	.2	.1
7. Percent of pupils' participation	81.3	78.7	20.8	21.9
8. Average number of questions asked by teacher	92.7	101.7	30.7	32.4
9. Number of volunteer contributions from members of the class	9.6	7.9	16.6	8.9

* The recitations were equated on the basis of forty minutes for each recitation period.

First: The large number of questions suggests the maintenance in the classroom, for considerable portions of time, of a high-strung nervous tension where there should be natural and normal conditions.

Second: The large number of questions suggests that the teacher is doing most of the work of the class-hour instead of directing the pupils in the doing.

Third: The large number of questions suggests that whenever teachers, either individually or collectively, preserve such a pace for any length of time, the largest educational asset that can be reckoned are verbal memory and superficial judgment.

Fourth: The large number of questions suggests that there is no time in the mechanics of the schoolroom to cultivate the gentle art of expression.

Fifth: The large number of questions suggests that there is little thought given to the needs of individuals.

Sixth: The large number of questions suggests that we are coming, more and more, to make the classroom the place for displaying knowledge instead of a laboratory for getting and using it.

Seventh: The large number of questions suggests that in actual practice there is very little effort put forth to teach our boys and girls to be self-reliant, independent, mental workers.[2]

The relationships between teaching ability and time expenditures in class were further studied by correlation methods. Coefficients of correlation for the several items of time expenditure in class and teaching success were calculated. The correlations were all small and statistically insignificant with the probable exception of a correlation of the number of hands raised for each question which had a coefficient of correlation of +.362 and a PE of .074. A careful examination of the data would lead one to believe that there is probably some relationship between these items and teaching success, as is generally supposed, but that the relationship is small. If the distinction between critical and contributing factors presented in the preceding chapter is here used, these factors are probably contributing but not critical. Before any final statement can be made about this matter, the relationship will need to be experimentally tested.

A further study was made of the kinds of questions asked by good and poor teachers. This part of the in-

[2] *Ibid.*

vestigation was based upon an analysis of stenographic reports for thirty-nine good teachers and thirty-eight poor teachers. The data from this investigation are summarized in Table XXX. While good teachers asked

TABLE XXX

TYPES OF QUESTIONS ASKED BY GOOD AND POOR TEACHERS

TYPE OF QUESTIONS	AVERAGE		STANDARD DEVIATION	
	Good	Poor	Good	Poor
1. Recall of facts (Dates, people, places, events, topical discussions, etc.)	45*	55.3	19.4	22.8
2. Memorized judgments (compare contrast, cause, effect, relations, opinions, and impressions)	10.1	17.4	3.2	9.7
3. Expository questions (explain, define, illustrate, etc.)	1.8	4.1	1.7	4.1
4. Real judgments (compare, contrast, cause, effect, relations, opinions, and impressions)	16.6	11.2	11.4	8.6
5. Unclassified	19.2	13.7	10.1	12.3

* Average number per recitation period of forty minutes.

more thought questions and fewer fact questions than poor teachers, the differences are not statistically significant. The differences in the means are in all instances small and the standard deviations large. Probably the most interesting fact brought out by these data is the large number of fact questions asked by good and poor teachers alike.

3. *A Study of the Kinds of Questions Asked by Teachers.* A further study of the relationship between teaching ability and kinds of questions asked by teachers

was made by correlation methods.[3] These data are presented in Table XXXI. The coefficients of correlation for items 1, 2, 3, and 6 are more than four times their probable error, thus indicating that there is some relationship between these items and teaching success.[4] The number of fact questions, expository questions, memorized judgments, and the total number of questions asked by teachers are negatively correlated with teaching success; the number of judgment questions and the ratio of thought to fact questions are positively correlated with teaching success. The order of this relationship is about that assumed by conventional supervision. Good teachers ask fewer fact questions and more thought questions than poor teachers. Good teachers also ask fewer questions in a class period than do poor teachers. While these data indicate that there is probably some relationship between the kinds of questions asked by teachers and teaching success, as is generally supposed, the correlations are low and the standard deviations large, making it always difficult to evaluate data secured for such items in a particular situation. If generalizations are to be made from such data, due regard should be given to their statistical significance.

A comparison was made of these with those reported by Osburn in his study of examination questions in his-

[3] The correlations are between a composite score of teaching success, based upon teacher ratings, and the number of questions asked.

[4] While the correlations here reported are low, they are somewhat higher than those ordinarily found between training and teaching success.

Knight, F. B. *Qualities Related to Success in Teaching.* Teachers' College, Columbia University, 1922, p. 40.

TABLE XXXI

THE RELATION BETWEEN TEACHING ABILITY AND KINDS OF QUESTIONS ASKED

KINDS OF QUESTIONS	R	P E
1. Recall of facts (dates, people, places, events, topical discussions, etc.)	—.460	.068
2. Memorized judgments (compare, contrast, cause, effect, relations, opinions, impressions)	—.348	.075
3. Expository questions (explain, define, illustrate, etc.)	—.448	.067
4. Real judgments (compare, contrast, cause, effect, relation, opinions, and impressions)	+.273	.079
5. Ratio of thought to fact questions	+.284	.079
6. Number of questions	—.346	.075

tory[5] (Table XXXII). The two studies are in substantial agreement. In both studies there is a predominance of fact questions over thought questions. The primary goal of history instruction, if these data are to be relied upon, would seem to be information. The tendency seems to be, however, to ask more judgment questions on examinations than in class discussions.

TABLE XXXII

A COMPARISON OF TRUE THOUGHT, MEMORIZED ANSWER, AND FACT QUESTIONS AS REPORTED IN THIS AND IN OSBURN'S STUDY

KINDS OF QUESTIONS	PERCENT		
	Good Teaching	Poor Teaching	Osburn's Study
1. Fact questions	64	67.5	33
2. Memorized judgments	14	19.8	41
3. True thought questions	22	12.7	26

Who, What, When, and Where Questions. A further study was made of the *who, what, when,* and *where* ques-

[5] Osburn, W. J. *Are We Making Good at Teaching History?* Bloomington, Illinois: Public School Publishing Company, 1926.

tions asked by good and poor teachers. The data are summarized in Tables XXXIII and XXXIV. When the percentages of questions of various kinds asked are compared, the agreement is practically perfect, indicating that there are no significant differences, as far as

TABLE XXXIII

THE PERCENTAGE OF WHO, WHAT, WHEN, AND WHERE QUESTIONS ASKED BY GOOD AND POOR TEACHERS

TYPES OF QUESTIONS	GOOD TEACHERS	POOR TEACHERS
1. Compare	.8	.6
2. Define	0	0
3. Describe	.1	0
4. Discuss	2.3	2.1
5. Explain	.9	1.3
6. Give	.8	2.2
7. How	8.3	9.0
8. Identify	0	0
9. Imagine	10.1	8.4
10. Locate	.9	.8
11. Draw map	.1	.2
12. Name	.6	.7
13. Outline	0	0
14. Prove	0	0
15. Summarize	.4	.2
16. State	14.2	14.8
17. Trace	.1	.1
18. Who	6.3	5.3
19. What	44.9	45.0
20. When	1.2	1.3
21. Where	2.9	2.8
22. Why	5.1	5.2
23. Write	0	0

these data go, between good and poor teachers in the number of *who, what, when,* and *where* questions asked by them. Eighty-two percent *of all the questions asked are of the what, why, how, state, and imagine type.*

A comparison of the relative emphasis placed, in class discussion and in written examinations, upon these types

TABLE XXXIV

A COMPARISON OF THE WHO, WHAT, WHEN, AND WHERE QUESTIONS ASKED BY GOOD AND POOR TEACHERS

	POOR TEACHERS			GOOD TEACHERS		
	T.	Av.	S.D.	T.	Av.	S.D.
1. Compare	21	.55	1.00	24	.62	1.54
2. Define	2	.05	x	x	x	x
3. Describe	2	.05	x	4	.10	x
4. Discuss	76	2.00	2.46	66	1.69	2.15
5. Explain	47	1.23	2.85	26	.66	.92
6. Give	79	2.07	2.78	22	.56	1.09
7. How	328	8.63	6.49	238	6.10	5.31
8. Identify	x	x	x	x	x	x
9. Imagine	311	8.18	5.81	292	7.48	4.46
10. Locate	29	.76	2.04	26	.66	1.38
11. Draw map	8	.21	x	4	.10	x
12. Name	25	.65	1.46	18	.46	1.28
13. Outline	x	x	x	x	x	x
14. Prove	1	.03	x	x	x	x
15. Summarize	9	.23	x	11	.28	x
16. State (tell)	553	14.18	11.20	401	10.48	5.13
17. Trace	4	.10	x	4	.10	x
18. Who	195	5.13	5.30	180	4.61	3.75
19. What	1645	43.29	20.08	1254	32.15	17.56
20. When	46	1.21	2.38	35	.90	1.31
21. Where	103	2.71	3.60	83	2.13	2.94
22. Why	189	4.97	4.69	148	3.79	3.58
23. Write	x	x	x	1	.03	x
Totals	3641	95.81	35.78	2878	73.79	31.52*

* Other questions not classified are not contained in these totals.

of questions was made, and, while certain differences were discovered, they were probably only such as one might expect to find in comparing oral and written examination methods. *Identify, write,* and *define* questions occur with a somewhat higher frequency in the *Osburn Study* than in the present study, but these differences are probably only differences in the terminology of oral and written examinations. These data are summarized in Table XXXV.

TABLE XXXV

RELATIVE EMPHASIS ON THE SEVERAL TYPES OF QUESTIONS AS SHOWN BY RANKS, ORDER, POSITION

TYPE OF QUESTION	OSBURN'S STUDY*	GOOD TEACHERS	POOR TEACHERS
1. Identify	12	20	21
2. Give	2	13	8
3. What	3	1	13
4. Name	4	14	13
5. Define	5	20	18
6. Write	6	19	21
7. Why	7	6	6
8. Who	8	5	5
9. How	9	4	3
10. When	10	9	11
11. Discuss	11		
12. Explain	12	10	10
13. Where	13	7	7
14. Compare	14	12	14
15. Describe	15	16	18
16. Outline	16	20	21
17. State	17	2	2
18. Map	18	16	16
19. Locate	19	10	12
20. Trace	20	16	17

* See footnote 5.

Summary. We have presented in this chapter certain numerical facts bearing upon differences in the teaching performances of good and poor teachers. While these data are by no means complete, they probably indicate, in a gross way, certain facts concerning the nature of the teaching performance of good and poor teachers of the social studies. It appears that four generalizations may legitimately be made from these data.

1. While a number of quantitative differences in the teaching performance of good and poor teachers were found in such items as the amount of time the teacher talked, the amount of time the pupil talked, the length of the teacher's question, the length of the pupil's re-

sponse, the number of hands raised by members of the class, the number of volunteer contributions from members of the class, the percentage of pupils participating, the number of fact questions, the number of thought questions, the ratio of thought questions to fact questions, and the total number of questions, these differences were not found to be statistically significant, and cannot be shown until further evidence is secured that they constitute valid measures of teaching success.

2. One fact which the data of this chapter consistently supports is that the teaching performance is highly variable. Except within very broad limits, there seem to be no optimum time expenditures for the class activities. Good teachers function successfully within a wide range of time expenditures.[6]

3. There are no statistically significant differences in the time expended by teachers upon such activities as the assignment, class discussion, supervised study, tests and quizzes, notebook work, written work, map work, topical reports, special reports, special projects, dramatization, debates, and current events, as reported by teachers in time-distribution studies. These data are, however, of doubtful reliability.

4. The three most striking facts brought out by this investigation were: (a) the great amount of talking done by both good and poor teachers, (b) the short responses made by pupils (approximately twelve seconds for each response on the average), and (c) the large number of questions asked by both good and poor teachers. The report in this respect confirms an earlier study of this subject.[7]

[6] Note sigmas in various tables. These sigmas also give the probable limits within which teachers may successfully function.

[7] See footnote 1.

CHAPTER VII

Some Items to Observe in the Supervision and Improvement of the Teaching of the Social Studies

The purpose of this chapter is to present three further lines of evidence bearing upon the important characteristics of teaching and to combine this evidence with that presented in the two preceding chapters, so as to have a statement of items to observe in the supervision and improvement of the teaching of the social studies. The three new lines of evidence to be presented in this chapter have been derived from: (a) a questionnaire study of the opinions of experts relating to the legitimacy of certain classroom activities in the teaching of the social sciences; (b) an analysis of magazine articles upon methods of teaching the social sciences for the purpose of discovering the specific activities of teachers and pupils which they recommend; and (c) a second more extended analysis of magazine articles upon methods of teaching history to discover specific trends in the teaching of this subject.

These materials may be considered from three distinct points of view: First, they may be viewed as an attempt to locate valid items for observation in the supervision of the social studies. Ruch and Crossman,[1] for example, in selecting test items for the *Ruch-Crossman Biology* Test assembled examination papers from one

[1] Ruch, G. M., and Stoddard, G. D. *Tests and Measurements in High School Instruction.* Yonkers-on-Hudson, New York, 1927, p. 143.

hundred and twenty-six teachers in twenty-three states. These examination papers were carefully analyzed, and the final selection of test items was made from three hundred constantly recurring questions. This process in test construction is usually spoken of as curricular validation. The *Brown-Woody Civics Test* is validated by including in the test only items discussed in at least five of nine common textbooks in civics.[2] The material presented in this chapter and in the preceding chapters may similarly be looked upon as an attempt to select valid items to be observed in classroom supervision. Second, from the point of view of method, the materials presented in this chapter may be looked upon as a concise statement of current opinions concerning the teaching of the social studies. Finally, these materials, when compared with those presented in earlier chapters of this study, may be looked upon as a study of discrepancies between theory and practices in teaching the social studies.

A Questionnaire Study of the Opinions of Experts Relative to the Legitimacy of Certain Classroom Activities of Teachers of the Social Studies. From the analysis of teaching presented in the two preceding chapters, certain recurring characteristics of teaching were discovered. These were brought together into a check list of activities. This activities check list was then sent for evaluation to some two hundred experts in the field of the social studies.

An expert, in this instance, is an instructor of courses in methods of teaching the social studies in colleges, normal schools, and universities, a critic teacher or supervisor of the social studies, or high school teachers of the

[2] *Ibid,* p. 182.

social studies who have contributed to the *Historical Outlook*. These experts were asked to read carefully through the check list of activities and to indicate those items which they considered seldom or never desirable and those which they considered most acceptable. (Forms PP and W).

One hundred and four replies were received to this questionnaire. Thirty-three of these replies were from high school teachers who had contributed to the *Historical Outlook*, twenty from state teachers' colleges, twenty from universities or university training schools, and eleven from supervisor officials working in the public school systems. The returns came from thirty states[3] and are probably fairly representative of teachers of the social studies. The materials received from this questionnaire are summarized in Table XXXVI.[4] Inasmuch as these and the other materials presented in this chapter can best be understood when discussed together, no interpretation of them will be offered at this point.

An Analysis of Articles on Methods of Teaching the Social Sciences to Discover the Specific Teacher and Pupil Activities Recommended by Them. An analysis was made of two hundred and twenty-nine articles on methods of teaching the social studies, appearing in the

[3] Of these replies, eighteen were from the State of Wisconsin, eight from Illinois, seven from Iowa, six from Indiana, six from Minnesota, six from California, five from South Dakota, four from Michigan, four from Missouri, four from Pennsylvania, three from New York, three from Texas, three from Ohio, three from Maryland, two from Tennessee, two from New Jersey, two from Colorado, two from Idaho, two from North Carolina, two from Kansas, and one each from Nevada, Georgia, West Virginia, Connecticut, Alabama, Virginia, Washington, South Carolina, New Jersey, and New Hampshire.

[4] Table omitted in this report. See Table XLI for summary of these data.

Historical Outlook, School Review, Journal of Educational Method, and *Education* during the years 1917-1926, to discover the specific teacher and pupil activities recommended by them. No attempt was made to tabulate the frequency with which objectives were mentioned, inspirational materials, units of history, or of the selection, sequence, or organization of subject matter. A summary of these data is presented in Table XXXVII.[5] As heretofore, no interpretation of these materials will be presented at this point. The data from this and from related investigations will be brought together in a single discussion at a later point in this chapter.

An Analysis of Articles on Methods of Teaching History to Discover Current Tendency in the Teaching of this Subject. In order to discover current tendencies in the teaching of history, an analysis was made by Miss Ruth Higley of three hundred and thirty-nine articles on methods of teaching history appearing in the *Historical Outlook* and the *School Review* during the years of 1909-1927.[6] Each article was analyzed for specific suggestions concerning methods of improving the teaching of history. In order to make this analysis as objective as possible, each recommendation was recorded upon a separate card and as nearly as possible in the words of the writer. These items were then assembled in a frequency table. The groups into which these data fell were not, however, preconceived categories but were secured from an exact matching of cards in a preliminary tabulation.

[5] Table omitted in this report. See Table XLI for a summary of these data.

[6] Higley, Ruth. *Changing Concepts in the Teaching of History,* Master's Thesis, Department of Education, University of Wisconsin, 1928.

It was thought that a procedure such as this would represent the facts somewhat more faithfully than those schemes of classification ordinarily employed, wherein the writer first produces his own scheme of classification and later fits the data into it. The results of the study are summarized in Table XXXVIII.[7] The list of articles analyzed and the list of recommendations taken from each article are reproduced in full in the appendix of Miss Higley's study.

A Summary of Expert Opinion about the Desirability of Certain Practices in the Teaching of the Social Studies. It is the purpose of this section to bring together the three lines of expert opinion presented in the preceding sections of this chapter. The object of this summary is to discover desirable practices in the teaching of the social studies. The data are presented in full in Table XXXIX.[8] While an attempt to summarize materials from various sources is never entirely satisfactory, there is a fair amount of agreement present in these three studies, particularly with reference to the more important aspects of teaching. If the practices which have a total frequency of one hundred or over are regarded as most desirable, the following items may be cited as being particularly significant in teaching the social studies: (1) methods of stimulating interest; (2) problem-project methods of teaching; (3) topical assignments; (4) unit assignments; (5) use of illustrative materials; (6) use of questions of judgment; (7) use of newspapers, periodicals, and magazines in teaching; (8) new type examinations; (9) collateral readings; and (10) notebooks.

[7] Table omitted in this report. See Table XLI for these data.
[8] Table omitted in this report. See Table XLI for these data.

For detailed information about the relative importance attached by experts to various practices in the teaching of the social studies, see Table XXXIX.

Some Discrepancies between Theory and Practice in the Teaching of the Social Studies. A comparison of the opinions of experts concerning the practices of good and poor teachers reveals certain significant discrepancies between theory and practice in the teaching of the social studies. While a study of the two sets of data shows that they are in substantial agreement, there are certain variations which are significant enough to merit special consideration.

Because of the convenient form in which they are assembled, and because of their representative character, the data obtained from the study of the opinions of one hundred and four experts in the field of the social studies relative to the desirability of certain classroom activities have been used in this chapter in making the comparisons reported between theory and practice.

The data representing practice is taken from the study of the teaching performance of good and poor teachers of the social studies reported in Chapters II and III. No attempt will be made to discuss these discrepancies fully. The major differences between theory and practice may, however, be briefly enumerated. First, expert opinion is decidedly opposed to a number of the minor practices of teaching. These practices include such personal habits as leaning on furniture and other objects about the room, sitting upon the teacher's desk, sitting upon the pupil's desk, etc. Notwithstanding the opinions of experts, a considerable number of good teachers have these habits. While this does not justify the

practice, the discrepancy is an interesting one. Second, in theory and practice, there is a marked difference in the importance assigned to the teacher's questions. In theory, teachers are supposed to ask a considerable number of thought questions; in practice, seventy-eight per cent of the questions asked by teachers were merely interrogations. Third, in theory, daily assignments are carefully made; theoretically, the making of an assignment is supposed to consume from ten to fifteen minutes of the recitation period. Practice indicates, however, that the average assignment is made in much less than fifteen minutes, probably taking not more than five minutes of the recitation period. Fourth, in theory, good teachers do a minimum amount of talking, thus allowing ample time for discussions by pupils; in practice, teachers talk considerably during the greater part of the recitation period. Finally, theory and practice differ in the character of the responses expected from pupils. Theoretically, students are supposed to give well rounded-out statements in answer to the teacher's questions; in practice, pupils rarely answer in complete sentences and their responses are very brief. The average length of the answers given by pupils of good teachers is fourteen seconds. Besides these major discrepancies, there are a number of less important ones which cannot be enumerated here. For a complete summary of the data bearing upon this point see Table XL.[9]

[9] Table omitted in this report. See Table XLI for these data.

TABLE XLI

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
1. Teaching posture								
A. Stands								
1. back of desk or chair	57	12	10	14	x	x	67	26
2. in front of desk	61	5	23	6	x	x	84	11
3. at either side of desk	58	2	9	3	x	x	67	5
4. at side of room	43	14	9	4	x	x	52	18
5. at rear of room	32	34	0	3	x	x	32	37
B. Sits (not at all)	5	0	25	27	x	x	30	27
1. at desk	62	8	10	15	x	x	72	23
2. on teacher's desk	5	70	3	1	x	x	8	71
3. on pupil's desk	1	77	9	3	x	x	10	80
(a) at front of room	6	13	x	x	x	x	6	13
(b) at side of room	3	17	x	x	x	x	3	17
(c) at rear of room	3	18	x	x	x	x	3	18
4. in pupil's seat	24	26	x	x	x	x	24	26
(a) at front of room	6	21	x	x	x	x	6	21
(b) at side of room	11	14	x	x	x	x	11	14
(c) at rear of room	15	14	x	x	x	x	15	14
C. Walks about	69	14	29	16	x	x	98	30
D. Leans on furniture	10	73	24	16	x	x	34	89
2. Characteristic actions of the teachers								
A. Laughs								
1. at class	3	80	0	2	x	x	3	82
2. with class	94	1	31	7	x	x	125	8
B. Smiles	88	2	32	22	x	x	120	24
C. Frowns	18	58	x	x	x	x	18	58
D. Gestures	52	27	24	19	x	x	76	46
E. Nods to pupil to recite	38	37	5	0	x	x	43	37
F. Points to pupil to recite	5	73	8	3	x	x	13	76
H. Snaps fingers	0	88	0	1	x	x	0	89
I. Nods approval	60	22	24	16	x	x	84	38
3. Characteristic expressions of the teacher								
A. Yes	50	14	34	34	x	x	84	48

TABLE XLI—(*Continued*)

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
B. All right	34	32	44	42	x	x	78	74
C. No	42	19	2	9	x	x	44	28
4. Motivation								
A. Little or no motivation in evidence	4	54	0	8	x	x	4	62
B. Indirect means used:								
1. Competitive devices (with own score, with other individuals, as teams, as classes)	67	12	2	1	5	x	74	13
C. Direct means used:								
1. Interest appeal of subject matter utilized (suggested new and interesting aspects of the subject)	98	1	34	3	10	x	142	4
2. Practical values of subject matter stressed (benefits, applications, and practical uses)	90	1	x	x	8	x	98	1
3. Interests and experiences of pupils utilized (introducing discussions of topics of special interest to pupils, school events, hobbies, etc.	98	0	33	8	x	x	131	8
4. Problem setting and purposeful self-directed activity utilized	94	1	7	0	37	x	138	1
5. Variety of interesting *methods* to hold pupils' interest and attention utilized	91	4	x	x	91	x	182	4

TABLE XLI—(*Continued*)

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
5. Provision for individual differences (general reference)	x	x	x	x	12	14	26	x
A. Little or no provision for individual differences	6	74	28	46	x	x	34	120
B. Ability groups (X, Y, Z, group)								
1. With little or no attention to individual needs within groups	12	63	11	1	x	x	23	64
2. With recognition of individual needs within groups	76	2	3	0	x	x	79	2
C. Individual instruction								
1. Used to supplement other procedures	85	x	4	0	x	x	89	x
2. The primary means of instruction	19	34	1	0	1	14	35	34
D. The differentiated assignment (the contract plan, unit instruction, through level assignment, etc.)	69	7	4	0	x	x	73	7
6. Organization of subject matter								
A. Textbook organization (unqualified)	5	80	1	24	x	x	6	104
B. Textbook organization plus applications (reference to concrete life situations in which textbook knowledge may be put to practical *use* parallel between French Revolution and the present Russian upheaval)	77	8	7	1	x	x	84	9

TABLE XLI—(*Continued*)

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
C. Textbook organization plus use of pupils' experience to make subject matter *understood* (teacher refers to recent school election to explain "politics")	80	5	7	1	x	x	87	6
D. Topical organization (independent of textbook)	54	13	5	0	x	x	59	13
E. Topical organization based upon textbook, outside reading, or both	80	2	27	12	x	x	107	14
F. Topical organization plus applications (see statement B above)	68	3	19	0	x	x	87	3
G. Topical organization plus use of pupils' experience (see statement C above)	74	3	32	5	x	x	106	8
H. Problem-project organization (learning by doing)	70	7	7	1	112	52	241	8
I. Problem-project organization plus applications (see statement B above)	69	5	x	x	x	x	69	5
J. Problem-project organization plus use of pupils' experience (see statement C above)	69	4	x	x	x	x	69	4
K. Psychologically organized subject matter (starting with pupil experiences, past or present, working out logical generalizations)	72	9	1	0	x	x	73	9

TABLE XLI—(*Continued*)

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
L. Application of past to present day conditions	x	x	x	x	49	x	49	x
M. General use of pupils' experience	x	x	x	x	49	x	49	x
7. Use of illustrative materials (general reference)	x	x	x	x	x	223	223	x
1. blackboards	101	0	45	44	19	12	177	44
2. bulletin boards	94	0	45	20	16	4	159	20
3. maps	101	0	44	39	85	60	290	39
4. charts	99	0	32	22	31	11	173	22
5. reference books	99	0	40	35	x	x	139	35
6. notebooks	88	3	x	x	x	x	88	3
7. pictures	99	0	42	8	79	15	235	8
8. posters	90	0	1	0	15	1	107	0
9. cartoons	89	0	1	0	16	6	112	0
10. clippings	93	0	40	13	33	1	167	13
11. diagrams and graphs	95	0	3	1	57	8	163	1
12. scrapbooks	88	3	2	0	17	1	108	3
13. lantern slides	92	2	2	0	22	6	122	2
14. stereographs	87	1	3	0	9	6	104	1
15. motion pictures	92	1	0	0	17	4	113	1
16. models	86	0	2	0	21	3	112	0
17. real objects	88	0	3	0	19	x	110	0
18. preserved specimens	86	0	2	0	13	x	101	0
19. materials prepared by pupils	93	0	13	3	19	10	135	3
20. field trips	96	0	x	x	30	1	127	0
21. demonstrations	86	0	x	x	1	x	87	0
22. pupils' experience	95	0	x	x	x	x	95	0
23. pageants	x	x	x	x	11	x	11	0
24. examples and illustrations	89	0	x	x	18	16	123	0
25. exhibits	x	x	x	x	8	x	8	0
26. museum materials	x	x	x	x	23	11	34	0
27. historical songs, poems	x	x	x	x	26	7	33	0
28. other illustrative materials	x	x	11	0	64	40	115	0

TABLE XLI—(*Continued*)

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
8. The assignment (general reference)	x	x	x	x	x	29	29	0
A. Page to page assignment from textbook (general)	76	19	x	x	x	x	76	19
1. nothing more	2	73	0	21	x	x	2	94
2. assigned topics	55	8	1	5	x	x	56	13
3. questions	57	5	5	5	x	x	62	10
4. references and outside reading	65	1	2	3	x	x	67	4
5. comments on high spots	61	4	10	3	x	x	71	7
B. Topical assignment (general)	85	4	8	x	46	x	139	4
1. nothing more	6	66	x	x	x	x	6	66
2. assigned topics	53	6	x	x	x	x	53	6
3. questions	60	2	x	x	x	x	60	2
4. references and outside reading	72	x	x	1	x	x	72	1
5. comments on high spots	60	3	x	x	x	x	60	3
C. Mimeographed outline (general)	82	3	x	x	x	x	82	3
1. nothing more	3	63	x	x	x	x	3	63
2. assigned topics	56	5	x	x	x	x	56	5
3. questions	58	3	x	x	x	x	58	3
4. references and outside reading	65	1	x	x	x	x	65	1
5. comments on high spots	61	2	10	x	x	x	71	2
D. Unit assignment (general)	77	2	2	x	18	47	144	2
1. nothing more	4	55	x	x	x	x	x	55
2. plus assigned topics	54	8	x	x	x	x	54	8
3. plus questions	61	4	x	x	x	x	61	4
4. plus references and outside reading	68	1	x	x	x	x	68	1
5. plus comments on high spots	60	2	x	x	x	x	60	2

TABLE XLI—(*Continued*)

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
E. Problem-project assignment	63	3	7	x	112	x	182	3
F. Presents directions for doing work	72	3	0	2	x	x	72	5
G. Presented, explained, and illustrated learning objectives to pupils	58	6	x	x	x	x	58	6
H. Checks pupils' understanding of assignment	79	1	x	x	x	x	79	1
I. Committee assignment	x	x	x	x	14	x	14	0
J. Differentiated assignment	x	x	x	x	4	x	4	0
K. Thought questions on part of the assignment	x	x	x	x	17	x	17	0
9. The teacher's questions (kinds), (general reference)	x	x	x	x	x	14	14	0
A. Questions of fact (dates, people, places, events, etc.)	68	17	61	63	x	x	129	80
B. Memorized judgment (comparison and contrasts, cause and effect, relationships and applications, impressions and opinions, answers given in textbook)	52	28	14	20	x	x	66	48
C. Expository (meaning, explanation, illustration)	79	3	2	4	x	x	81	7
D. Real judgments (comparisons and contrasts, cause and effect, relationships and applications, impressions and opinions, answers not given in textbook)	101	0	23	13	10	15	149	13
10. Nature of pupil response								
A. Attention	75	1	x	x	x	x	75	1

TABLE XLI—(*Continued*)

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
B. Show of hands (one)	41	15	5.2	3.4	x	x	46.2	18.4
C. Questions from class	88	1	x	x	x	x	88	1
D. Volunteers contributions from class	85	2	9.6	7.9†	x	x	94.6	9.9
E. Distribution of responses	51	1	81.3	78.7*	x	x	132.3	79.7
11. Attention of teachers to pupils' response	39	1	47	20	x	x	86	21
12. Comments on pupil's work								
A. Unqualified acceptance of pupil's answer	40	22	11.8	22.9‡	x	x	51.8	44.9
B. Unqualified rejection of pupil's answer	34	30	.7	.9	x	x	34.7	30.9
C. No comment	23	25	11.5	10	x	x	34.5	35
D. Unqualified or non-committal	33	23	x	x	x	x	33	23
E. Commendatory	77	4	x	x	x	x	77	4
F. Condemnatory	45	24	x	x	x	x	45	24
G. Repeats answer	12	75	1.3	6.6	x	x	13.3	81.6
H. Corrects statements of pupils	73	13	x	x	x	x	73	13
I. Supplies new information	90	x	4.2	3.9	23	x	117.7	3.9
J. Follows up with more questions to the pupil reciting	82	5	16.5	18	x	x	98.5	23
K. Follows up with more questions to the class or someone else in the class	85	4	16.5	18	x	x	101.5	22
L. Answers questions	48	25	1.9	2.2	x	x	49.9	27.2
M. Indicates pupils' difficulties or errors	85	x	x	x	x	x	85	0
N. Suggests methods of overcoming difficulties	94	x	x	x	x	x	94	0

* Percentage of pupil participation.
† Average number per recitation period.
‡ Average frequency with which each type of comment was made per recitation period.

TABLE XLI—(*Continued*)

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
O. Indicates relationship between subject matter and life	95	x	.4	.6	x	x	95.4	.6
P. Indicates relationship between courses or parts of courses (to-day's work with that which has preceded or is to follow)	94	x	.5	.5	x	x	94.5	.5
Q. Introduces stories, anecdotes, illustrations	92	1	1.2	1.1	10	x	103.2	2.1
R. Demonstrates procedures	69	2	x	x	x	x	69	2
S. Summarizes or formulates discussions	78	6	4.3	13.3	x	x	82.3	19.3
13. Appraisal of pupil's response								
A. Teacher-appraisel (teacher says "that's good," "all right," etc.	45	23	14	44	x	x	59	67
B. Teacher-appraisal plus an occasional question or comment from class	54	8	13	0	x	x	67	21
C. Teacher-appraisal plus free class discussion	78	4	11	0	x	x	89	4
D. Class appraisal (well established procedure, e.g., members of class asking questions or making comments, waiting until end of pupil's recitation	65	7	7	1	x	x	72	8
E. Self-appraisal (in evidence)	57	14	2	0	x	x	59	14
F. Little or no appraisal	3	64	0	4	x	x	3	68
14. Reading and reference work (general reference)	x	x	x	x	x	153	153	0
A. Fiction historical	x	x	x	x	13	x	13	0

TABLE XLI—(*Continued*)

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
B. Newspapers, periodicals, and magazines	x	x	x	x	118	75	193	0
C. Reading collateral	x	x	x	x	111	153	264	0
D. Reading, teacher's direction of	x	x	x	x	31	x	31	0
E. Reference books	x	x	x	x	63	33	96	0
F. Reading, mimeographed of	x	x	x	x	13	x	13	0
G. Library reading	x	x	x	x	25	x	25	0
H. Reading, source materials	x	x	x	x	17	x	17	0
I. Outside reading, checking of	x	x	x	x	23	x	23	0
J. Syllabi, guide for reading	x	x	x	x	16	42	58	0
K. Note taking	x	x	x	x	12	x	12	0
L. Notebooks, recommended	x	x	x	x	43	78	121	0
M. Library methods	x	x	x	x	18	x	18	0
N. Study directions	x	x	x	x	29	x	29	0
O. Supervised study	x	x	x	x	24	16	40	0
P. Outlines	x	x	x	x	x	42	42	0
15. Measurement of results (general reference)	x	x	x	x	x	102	102	0
A. Question and answer recitation	51	31	x	x	x	x	51	31
B. Oral quiz	73	5	x	x	3	x	76	5
C. Short written quizzes (5-10 minutes)	91	9	x	x	x	x	91	0
D. New type test	80	5	x	x	28	x	108	5
16. Miscellaneous class activities	x	x	x	x	x	x	0	0
A. Current events	x	x	x	x	x	8	8	0
B. Debates	x	x	x	x	25	7	32	0
C. Dramatization	x	x	x	x	42	8	50	0
D. Drill (dates, locations, men, etc.)	x	x	x	x	1	x	1	0
E. Floor talks	x	x	x	x	3	x	3	0
F. Games	x	x	x	x	x	8	8	0

TABLE XLI—(*Continued*)

A SUMMARY OF THEORY AND PRACTICE IN TEACHING THE SOCIAL STUDIES

TYPE OF ACTIVITY	Recommended Practice (Experts)	Condemned Practice (Experts)	Good Teachers	Poor Teachers	First Study of Articles	Miss Higley's Study	Desirable Practice Totals	Undesirable Practice Totals
G. Impersonations	x	x	x	x	2	x	2	0
H. Laboratory work	x	x	x	x	20	x	20	0
I. Lecture method	x	x	x	x	20	x	20	0
J. Reviews	x	x	x	x	15	12	27	0
K. Socialized recitation	x	x	x	x	58	28	36	0
L. Special reports	x	x	x	x	57	40	97	0
M. Summaries	x	x	x	x	10	x	10	0
N. Term papers	x	x	x	x	12	x	12	0
O. Written reports	x	x	x	x	3	x	3	0
P. Thesis	x	x	x	x	5	x	5	0
Q. Themes	x	x	x	x	3	x	3	0

Some Items to Observe in the Supervision and Improvement of the Teaching of the Social Studies. One of the purposes of this chapter, as previously set forth, is to select from all the evidence available a list of items that supervisors may observe in the supervision and improvement of the teaching of the social studies. The items to be observed in studying teaching need to be validated. Four lines of evidence have been presented in this chapter and in the preceding chapters which bear directly upon the validity of certain items to observe in the supervision of the social studies, namely, (1) the study of the teaching performance of good and poor teachers presented in Chapters II and III, (2) a questionnaire study of the opinions of one hundred and four experts on the teaching of the social studies, presented in

TABLE XLII

A BRIEF LIST OF ITEMS* TO OBSERVE FOR THE SUPERVISION AND IMPROVEMENT OF THE TEACHING OF THE SOCIAL STUDIES

1. The teacher's objectives
2. Selection and organization of subject matter
3. Motivation
4. Provision for individual differences
5. Use of illustrative materials
6. The assignment
7. The teacher's questions
8. The pupil's response
9. Commentarial statements of the teacher
10. Percentage of the pupil participation
11. Percentage of pupil attention
12. Attention of teachers to pupils' responses
13. Teacher's appraisal of pupils' responses
14. Skill in measuring results
15. Outside reading and reference work
16. Study helps and directions for study
17. Discipline
18. Knowledge of subject matter
19. Teacher's use of pupils' experience
20. The teacher's personal equipment

* These items are merely the major divisions of more complete lists of items to observe. Each item will need to be translated into specific teacher and pupil activities before being used in classroom supervision. Form W, *Appendix*.

section one of this chapter, (3) an analysis of two hundred and twenty-nine articles on the teaching of the social studies to discover those specific teacher and pupil activities most frequently recommended by magazine writers, presented in section two of this chapter, and (4) an analysis of three hundred and thirty-nine articles on the teaching of history to discover current tendencies in the teaching of this subject, presented in section three of this chapter. These four lines of evidence are summarized in Table XLI. While such a table is never entirely satisfactory, it probably will serve to indicate,

roughly, those aspects of teaching which supervisors may, with safety, take into consideration in their supervision of the social studies. A study of these materials will show that certain practices are more generally accepted than others. These practices have been brought together, in a briefer form, in Table XLII. The items can probably be regarded as minimum essentials of classroom supervision.

CHAPTER VIII

Summary and Conclusions

The problem of this investigation was threefold. In the first place, the study was undertaken to test certain theories concerning objective supervision. Classroom supervision, as ordinarily performed, is highly subjective. This subjectivity grows out of two practices more or less typical of conventional supervision: (1) the tendency of supervisors to use inferential characters in their discussions of teaching, and (2) the tendency of supervisors to base their evaluations of teaching not upon exact data but upon approximations, estimates, and guesses. It has been proposed in this dissertation that supervision might be made more objective if supervisors were trained to observe, analyze, and describe teaching in terms of specific teacher and pupil activities. If such a theory of supervision were well founded, one would expect to find significant qualitative and quantitative differences in the teaching performance of good and poor teachers. The present investigation was undertaken to test this assumption. In the second place, the study was an inquiry into the characteristic differences in the teaching performance of good and poor teachers of the social studies in the junior and senior high school. In this sense the investigation is purely of the comparative status-study type. The problem is thus one of describing likenesses and differences in the teaching performance of good and poor teachers. As an investigation of methods of teaching the social studies, the study presents a considerable amount of material concerning the manner in which these

subjects are taught. Finally, in its more general aspects, the study is an inquiry into causes of success and failure in teaching. A question which is frequently raised in supervision is: "Why is it that some teachers succeed and other teachers fail?" The result of this part of the investigation will probably be a general statement of the qualities essential to success in teaching. The findings and conclusions for each of these three problems will be presented separately in the succeeding pages of this chapter.

Characteristic Differences in the Teaching Performance of Good and Poor Teachers of the Social Studies. Forty-seven teachers of history, civics, and geography in the junior and senior high school (grades seven to twelve, inclusive) whose ability as teachers had been recognized as of superior quality, and an equal number of teachers with less than average teaching ability were selected for systematic study. The method of study used in this investigation is that commonly known as the *method of double agreement.*

Good and poor teachers of the social studies were found to differ in a number of important aspects. A detailed statement of these differences will be found in the body of this report. A summary of the qualitative differences which characterize the teaching performance of good and poor teachers will be found at the end of Chapter V, and the quantitative differences which characterize these two groups will be found at the end of Chapter VI. Instead of restating these facts, a brief description of a typically good and a typically poor teacher of the social studies, as embodied in these data, will be given. In presenting these descriptions, the most

frequent practices of good and of poor teachers of the social studies, with references to the more important aspects of teaching, will be summarized. The various frequencies attached to each practice will be indicated in parentheses immediately following the name of the practice.

A good teacher of the social studies motivates her work (47). She asks many thought questions and employs a good technique in the process (21). She conducts class discussions in a conversational manner (25); makes frequent use of pupils' experiences (24); and attends carefully to pupil responses (46). She possesses a wealth of commentary expressions (22); and employs some system of appraisal other than teacher appraisal (33). She socializes class discussions (16); makes frequent use of illustrative materials (36); and provides definite directions for study (11). She follows a topical organization and assignment of subject matter (32); makes some provision for individual differences (19); and shows superior knowledge of subject matter (35). She requires notebooks and outside reading (31); has a well established procedure for examinations (28), and good discipline (47). She is pleasant (22), smiles appreciatively (32), and laughs with the class from time to time (31). She is enthusiastic (28), patient (32), and possesses a good sense of humor (10). She stands throughout the greater part of the class period (47).

The typically poor teacher has poor discipline (17); is incapable of stimulating interest (39); and makes no provision for individual differences (46). She follows a textbook assignment and organization of subject matter (34); provides formal textbook teaching (40), and

makes little effort to socialize class discussions (43). The poor teacher appraises the pupils' responses (44) but possesses few commentarial remarks for this purpose. She may be lazy; she may loaf or she may bluff; she may nag her pupils, show favoritism, or be too familiar with the boys in her class. Some poor teachers are sarcastic, some dictatorial, and some indifferent. The list of weaknesses shown by poor teachers is a long one.

Why Some Teachers Fail and Why Other Teachers Succeed. There are many weaknesses associated with the teaching of poor teachers (Table XXV). The extent to which these weaknesses operate, singly or in groups, to cause failure cannot be deduced from the data presented in this investigation except in a gross way. A distinction has already been made between *critical* and *contributing* factors of teaching. If one wishes to ascertain the teaching activities which lead to certain failure, it would doubtless be possible to find many such activities, but when the weaknesses possessed by poor teachers were checked, one by one, against the teaching activities of good teachers, the data were not sufficiently complete to make possible a definite statement to the effect that good teachers possessed none of these elements of weakness to any extent. This statement is made because of the rather loose manner with which *causes* and *failures* are ordinarily discussed.

However, an attempt was made to discover the weaknesses most frequently associated with poor teaching. These weaknesses can be set forth under four major categories: (1) knowledge of subject matter; (2) technique of teaching, (3) personal characteristics, and (4) discipline. In twenty instances, unfortunate personal

characteristics were given as the source of weakness; in sixteen instances, lack of discipline; in fifteen instances items of poor technique were listed; and in six instances, lack of knowledge of subject matter. Notwithstanding the importance attached to discipline, technique, and knowledge of subject matter, it has been found here, as in previous investigations, that the chief sources of weaknesses among poor teachers are defective characteristics of personality.

The evidence as to why some teachers succeed is somewhat more positive. This evidence is found in the recurring activities of good teachers and reported in the body of this report. From this evidence is summarized here a statement of the minimum essentials of teaching success:

1. Ability to stimulate interest
2. Wealth of commentarial statements
3. Attention to pupils while reciting
4. An effective organization of subject matter
5. Well-developed assignments
6. Use of illustrative materials
7. Provision for individual differences[1]
8. Effective methods of appraising the work of pupils
9. Freedom from disciplinary difficulties
10. Knowledge of subject matter
11. Knowledge of the objectives of education
12. Conversational manner in teaching
13. Frequent use of the experiences of pupils
14. An appreciative attitude, evidenced by the teacher's nods, comments and smiles
15. Skill in asking questions

[1] These items were added to the list from analyses of expert opinion presented in Chapter IV.

16. Definite directions for study
17. Skill in measuring results[2]
18. Willingness to experiment

The list of minimum essentials of teaching success presented here should not be confused with other lists of activities derived from a study of the activities of teachers in general. The items here presented are those which most frequently characterize the teaching of good teachers. They should be particularly helpful to supervisors in determining points to be emphasized in classroom supervision. They indicate where expert supervision may result in the maximum teaching efficiency.

Objective Supervision in Terms of Specific Teacher and Pupil Activities. If one were to construct an educational test of some sort, his first consideration would be for validity, reliability, and objectivity. That is, he would want to assure himself that the test measured, consistently and objectively, that which it purported to measure. The need for testing validity, reliability, and objectivity is, however, by no means limited to the field of test construction. In their observation of teaching, supervisors set up informal standards for evaluating teaching efficiency. These standards, in turn, need to be evaluated. Supervisors must assure themselves that the items of teaching which they select as standards for evaluating teaching efficiency have validity, reliability, and objectivity. Very little attention has been given to this problem in classroom supervision.

The evidence presented in Chapters I to V of this report indicates that current supervision is largely with-

[2] These items were added to the list from analyses of expert opinion presented in Chapter IV.

out validity, reliability, and objectivity. It was found that there was little agreement among supervisors concerning the important characteristics of good teaching; that the terminology of conventional supervision was highly subjective; and that the evaluations derived from present data-gathering procedures were highly unreliable. The first problem of this study, therefore, has been to discover means of improving the effectiveness of classroom supervision.

Theoretically, the subjectivity of supervision is due to two practices, more or less typical of conventional supervision: (1) the use of inferential characters to describe teaching, and (2) the practice of evaluating teaching from data based upon estimates, approximations, and guesses. The exact meaning of these statements has been set forth, at some length, in the body of this report. A method of rendering supervision more objective has been proposed, namely, to train supervisors to observe, analyze, and describe teaching in terms of specific teacher-and-pupil activities. It has been the purpose of this study to test systematically the feasibility of this theory of supervision.

The materials presented in this report, however, deal with only certain aspects of objective supervision. Validity has been selected for special consideration since it must, of necessity, be of primary consideration in any system of supervision ultimately accepted by supervisors. If one were to establish a system of supervision whereby supervisors might observe, analyze, and describe teaching in terms of specific teacher-and-pupil activities, would it have validity? It was thought that an effective test of the soundness of this hypothesis might be made through

a systematic analysis of the teaching performance of good and poor teachers of the social studies. If the assumption is true that good and poor teachers differ in the specific activities which they perform, significant differences should appear in the teaching performance of these two groups.

In making the study of the teaching performance of good and poor teachers, two types of analyses were made,—qualitative and quantitative. The distinction made between *qualitative* and *quantitative* is essentially the same as that made in other sciences, particularly in chemistry. The purpose of the qualitative analyses undertaken in this investigation was to discover the *elements* or *constituents* of teaching which characterize the teaching performance of good and poor teachers. The purpose of the quantitative analyses reported herein was to discover time and frequency differences in those elements which were found to be common to the teaching performance of good and poor teachers of the social studies. The analysis of qualitative differences was made for some twenty items: (1) teaching posture, (2) characteristic actions of the teacher, (3) characteristic comments of the teacher, (4) attention to physical conditions,[3] (5) economy of time,[3] (6) discipline, (7) motivation, (8) provision for individual differences, (9) organization of subject matter, (10) use of illustrative materials, (11) the assignment, (12) the teacher's questions, (13) the pupil's response, (14) the teacher's attention to the pupil's response, (15) the expository comments of the teacher, (16) the appraisal of the pupil's response,

[3] These items were later eliminated because of insufficient data.

(17) elements of strength in the recitation, (18) elements of weakness in the recitation, (19) personal qualities of teachers, and (20) general observations. A more detailed discussion of the nature of these analyses will be found in the body of this report.

While good teachers were found to differ qualitatively from poor teachers, these differences were found not to be *critically* significant for the items of teaching included in this study. This statement is important, bearing directly, as it does, upon the theory of supervision set forth in this thesis, namely, that supervision would be more effective if supervisors were trained to observe, analyze, and describe teaching in terms of specific teacher-and-pupil activities. If this point of view is sound, significant differences should appear in the teaching performance of good and poor teachers.

However, the statement that no critically significant differences were found in the teaching of good and poor teachers needs careful interpretation. If a distinction made earlier in this report (Chapter II) is used here, the differences found herein in the teaching performance of good and poor teachers are probably *contributing* and not *critical* factors in teaching success. That is, there were a number of qualities which were found more frequently in the teaching performance of good teachers than in the teaching performance of poor teachers (summarized at the end of Chapter II). But there were no qualities, with the probable exception of motivation, discipline, and knowledge of subject matter, possessed by all good teachers which were not possessed by one or more poor teachers, and vice versa. Thus, so far as this study goes, the qualities found to differentiate the teaching per-

formance of good from that of poor teachers are contributing but not critical factors of teaching.

This statement means that, if the validity of objective supervision must rest upon a list of well established *critical* factors of teaching, it cannot be said that by the data presented in this dissertation this validity has been established. But, since a number of contributing factors, which seem to be important in determining success in teaching, have been discovered, there is ample proof in this dissertation of the fruitfulness of the objective supervision hypothesis. However, further study needs to be made of both *critical* and *contributing* factors in teaching.

If the distinction here made between critical and contributing factors is accepted as one worth while, the following items of teaching, may then be accepted by supervisors as a guide in classroom supervision: (1) ability to stimulate interest, (2) wealth of a commentarial statements, (3) attention to recitations of pupils, (4) topical unit-problem-project organization of subject matter, (5) well-developed assignments, (6) use of illustrative materials, (7) provision for individual differences,[4] (8) effective methods of appraising work of pupils, (9) freedom from disciplining difficulties, (10) knowledge of subject matter, (11) knowledge of the objectives of education, (12) conversational manner of teaching, (13) frequent use of experience of pupils, (14) appreciative attitudes, (as evidenced by the teacher's nods, comments, and smiles), (15) skill in asking questions, (16) socialized procedures, (17) skill in measuring results,[4] and willingness to experiment.

[4] These items were added to those listed in the studies of expert opinion presented in Chapter IV.

A further study was made of certain quantitative differences in the teaching performance of good and poor teachers. The items studied were: time consumed in teacher-talk, time consumed in pupil-talk, length of the teacher's question, length of the pupil's response, number of hands raised by members of the class, the number of voluntary contributions from members of the class, the percentage of pupil-participation, the number of fact-questions, the number of thought questions, the ratio of thought questions to fact questions, and the total number of questions asked. While good teachers differed from poor teachers in all of these respects, none of the differences were statistically significant. This result is probably due, in a large measure, to variability in teaching performance. The fact that teaching performance is highly variable has been consistently supported by data presented in various parts of this study. This variability operates to create wide limits within which teachers may vary their activities and yet succeed in their teaching. While there are a number of items which seem to be definitely related to teaching success, as shown by their correlations, the performance of teachers is so variable as to make it next to impossible, in the absence of further evidence, to say that an observed practice is wholly good or wholly bad.

Finally, then, what must be the conclusion concerning objective supervision? Is it more effective or is it less effective than conventional supervision? Aside from certain practical considerations not discussed in this report, the evidence for the validity of what is here called objective supervision, is inconclusive. While there is considerable evidence to indicate that there are a number of

specific teacher-and-pupil activities which act as contributing factors in teaching, too little is known about the measurable contributions of these factors to warrant any final statement about their ultimate use in classroom supervision. Although an inconclusive report is always disappointing, the writer has attempted to stay well within the limit of fact; a careful study of the materials here presented does not warrant a more positive statement at this time. It is hoped, however, that the study may offer constructive suggestions to others who are interested in the validity, reliability, and objectivity of classroom supervision.

Bibliography

Barr, A. S., and others. *Elementary School Standards for the Improvement of Teaching.* Ann Arbor, Michigan: Edwards Brothers, 1924.

Barr, A. S., and Burton, W. H. *The Supervision of Instruction.* New York: D. Appleton and Company, 1926.

Brueckner, L. J. "Value of a Time Analysis of Classroom Activity as Supervisory Technique." *Elementary School Journal,* (March, 1925) XXV, 518-552.

Butler, Frank A. *Standard Items to Observe for the Improvement of Classroom Management.* Doctor's Dissertation, Department of Education, University of Wisconsin.

Conrad, E. B. *A Study of the Objectivity of the Time Chart in Classroom Supervision.* Master's Thesis, Department of Education, University of Wisconsin. 1928.

French, W. C. *The Correlation between Teaching Ability and Thirteen Measurable Classroom Activities.* Master's Thesis, University of Chicago. 1924.

Higley, Ruth. *Changing Concepts in the Teaching of History.* Master's Thesis, Department of Education, University of Wisconsin. 1928.

Horn, Ernest. *Distribution of Opportunity for Participation among Various Pupils in Classroom Recitations.* New York: Teachers College, Columbia University. 1914.

Knight, F. B. *Qualities Related to Success in Teaching.* New York: Teachers College, Columbia University. 1922.

Midthun, M. A. *The Objectivity of an Activity Check List for the Study and Improvement of Teaching.* Master's Thesis, Department of Education, University of Wisconsin. 1928.

Monroe, Walter S. "Observable Characteristics of Efficiency in Teaching." *Elementary School Journal,* XXVII (April, 1927), 597-99.

Morrison, Henry C. *The Practice of Teaching in the Secondary School.* Chicago: University of Chicago Press. 1926.

Osburn, W. J. *Are We Making Good at Teaching History?* Bloomington, Illinois: Public School Publishing Company. 1926.

Schoonover, A. F. *A Study of the Objectivity of a Teacher's Check List.* Bachelor's Thesis, Department of Education, University of Wisconsin. 1927.

Somers, Grover F. "Pedagogical Prognosis: Predicting the Success of Prospective Teachers." *Contributions to Education,* No. 140. New York: Teachers College, Columbia University. 1923.

Stevens, Romiett. *The Question of a Measure of Efficiency in Instruction.* New York: Teachers College, Columbia University. 1912.

Struck, L. A. *A Study of the Reliability of an Activity Check-list for the Study and Improvement of Teaching.* Master's Thesis, University of Wisconsin. 1928.

Westaway, F. W. *Scientific Method, Its Philosophy and Its Practice.* London: Blackie and Son. 1919.

Whitney, Frederick L. "The Prediction of Teaching Success," *Journal of Educational Research, Monograph No. 6.* Bloomington, Illinois: Public School Publishing Company. 1924.

Appendix

The several forms reproduced in the appendix of the original report have been omitted in the printed report. These forms are filed with the original in the University of Wisconsin library. A list of these forms is given below.

1. Form P, Letter to City Superintendents
2. Form Q, Letter to City Superintendents
3. Form X, Time Chart
4. Form Xa, Individual Pupil Activity Summary
5. Form Xb, Time Chart Summary
6. Form Y, Sample Activity Diary
7. Form R, Sample Letter from Teacher
8. Form O, Sample Letter from Superintendent of Schools
9. Form Z, Some Tentative Standards for the Improvement of Teaching in Secondary Schools
10. Form B, General Summary
11. Form PP, Letter to Teachers of Social Science
12. Form W, An Activities Check List for the Study and Improvement of Teaching, Social Studies
13. Form N, Time Distribution of Major Activities of Recitation
14. Form A, Questionnaire Upon Practices of Teacher